

REPORT

OF THE

COMMISSIONERS OF THE DISTRICT OF COLUMBIA

FOR THE

YEAR ENDED JUNE 30, 1897.

VOL. III.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

TABLE OF CONTENTS.

	Page.
Vital statistics.....	3
Mortality.....	4
Zymotic diseases.....	7
Constitutional diseases.....	8
Local diseases.....	9
Developmental diseases.....	9
Violence.....	9
Births.....	10
Still-births.....	10
Marriages.....	10
Transcripts from records.....	11
Private hospitals.....	12
Anatomical material.....	13
Relief of the poor.....	14
Contagious diseases.....	15
Major contagious diseases.....	18
Inspection of foreign vessels.....	18
Contagious diseases, animals.....	19
Permits to rope off streets and alleys.....	19
Chemical laboratory.....	19
Inspection service.....	23
Nuisances.....	24
Smoke nuisance.....	26
Foods.....	27
Drugs.....	30
Marine products.....	30
Live stock.....	32
Dairies and dairy products.....	33
Dairy farms.....	33
Dairies.....	35
Analysis of milk.....	36
Garbage and dead animals.....	37
Collection of refuse.....	38
Collection of night soil.....	38
Collection of ashes.....	39
Collection of miscellaneous refuse.....	39
Pound service.....	40
Legislation.....	44
Eastern Branch flats.....	46
Improvement of sewer system.....	46

APPENDIX A.

Report of medical sanitary inspector.....	51
Diphtheria.....	51
Scarlatina.....	57

APPENDIX B.

Report of chemist.....	59
Work in chemical laboratory.....	59
Analysis of foods.....	61
Analysis of condensed milk.....	61
Analysis of milk.....	61

	Page.
Report of chemist—Continued.	
Investigation of heating and ventilation of schools	62
Location of buildings	63
Size of rooms	63
Heating and ventilation	63
Smead system of heating and ventilation	64
Care of schools by janitors	66
Regulation of temperature of schools	66
Hot-air ducts	67
Foul-air flues	68
Disposal of excreta	68
Character of air currents	69
Investigation of samples of candy	74

APPENDIX C.

Report of District veterinarian	77
Resolutions of United States Veterinary Medical Association	81

APPENDIX D.

Laws and regulations relating to public health in District of Columbia	82-123
Index to laws and regulations relating to public health	323-339

APPENDIX E.

List of physicians entitled to practice medicine in District of Columbia	124
--	-----

APPENDIX F.

Vital statistics	132
General death rate	132
In Washington City	132
In Georgetown	151
In alleys	152
In county	156
Tables	158-300
Maps	300
Charts	300
General index	301-322

REPORT
OF THE
HEALTH OFFICER
OF THE
DISTRICT OF COLUMBIA.
1897.



REPORT OF THE HEALTH OFFICER.

HEALTH DEPARTMENT, DISTRICT OF COLUMBIA,
Washington, June 30, 1897.

GENTLEMEN: I have the honor to submit herewith the following report as to the sanitary condition of the District of Columbia during the year ending June 30, 1897, and relative to the operations of the health department during that period, being the twenty-sixth annual report of the department, and the eighteenth since its present organization.

VITAL STATISTICS.

POPULATION.

The census taken by the police department during March, 1897, showed a population of 277,782, made up of 189,547 whites and 88,325 colored. Approximately, therefore, 32 per cent of the entire population is colored. Practically the same ratio prevails during the earlier periods of life as in the population as a whole, as 34 per cent of those under 7 years of age, and the same per cent of those under 15 years, belong to the colored race. The annual average increase since the police census of December, 1894, has been 1.43 per cent for the whites, 0.68 per cent for the colored, and 1.18 per cent for the entire population. While the rate of increase for the colored remains very much below that for the whites, the falling off in the rate has been slightly greater among the latter.

Of the entire population, 47 per cent is male and 53 per cent female. As between the races we find among the whites 49 per cent male and 51 per cent female, while among the colored the corresponding figures are 45 per cent and 55 per cent.

The entire population is therefore made up as follows:

White:	Per cent.	
Males.....	33	
Females.....	35	
	—	68
Colored:		
Males.....	14	
Females.....	18	
	—	32
Total.....		100

The available data does not permit a very accurate distribution of the population according to age; and it is very much to be regretted that the age periods of the police census do not correspond with those of the tabulated vital statistics, having reference, apparently, rather

to the ascertainment of the number of children of school age than to the determination of the death rates. Of the entire population, however, approximately 11 per cent is under 7 years of age and 13 per cent under 15. The proportion of children is somewhat greater among the colored race; of the white population approximately 11 per cent is under 7 years old and 13 per cent less than 15, while of the colored people those under 7 make up 12 per cent and those under 15 years 14 per cent of the whole.

Ordinarily the entire District of Columbia is regarded as the city of Washington, but for the computation of vital statistics it is desirable that some distinction be made, so as to learn the differences, if any, in the death rates in different sections. No proper subdivision has yet been made, but for present purposes it is sufficient to state that the city proper, or what was formerly comprised in the cities of Washington and Georgetown, contains a population of 236,587, the remainder, 41,195, being distributed throughout the county, in which term is included numerous rather densely populated suburbs, as Anacostia, Brookland, Eckington, Hillsdale, Le Droit Park, Mount Pleasant, Rosedale, and Trinidad—that is, 85 per cent of the population is located within the city.

Another and possibly even more important division of the population, according to location of residence, is into those living on streets and those living in the alleys. The entire alley population of the District is 18,978, of which 18,333 live within the city proper. Of the population of the entire District, therefore, 6.83 per cent lives in the alleys; of the white population, 1.13 per cent, and of the colored, 19.05 per cent. If, however, the inquiry be confined to the city, 7.75 per cent of the population inhabits the alleys; of the whites, 2.14, or 1.32 per cent of the white population; and of the colored, 16,189, or 21.75 per cent of the colored population.

As the police census was taken in March, 1897, while the middle of the year, to which the statistics included in this report have reference, was December, 1896, the death rates, wherever they are based upon the entire population, or on the entire white or colored portions of it, have been computed upon the estimated population for the latter month, which is as follows: 188,787 whites, 88,176 colored, and 276,963 total population. This is necessary, not only to approximate more closely the actual death rate for the year at present under consideration, but also to permit proper comparison with the death rates for previous years, which have been, as far as possible, computed upon the basis of the December population. Death rates, however, other than those specified above, and other proportions, have necessarily been computed upon the basis of the March population as ascertained by the census.

MORTALITY.

Having considered the amount and nature of the population of the District, it is necessary to determine the death rates for the community taken as a whole and in its various parts, and the nature of the sickness which makes up these rates. There occurred during the year just ended 5,737 deaths, of which 3,216 were of whites and 2,521 of colored. The corresponding death rates were, therefore, 20.71 for the population as a whole, 17.04 for the whites, and 28.59 for the colored. Upon comparing these figures with those for preceding years, we find that only once during the past twenty-two years, the entire period for which

reliable figures are available, has the general death rate fallen lower than during the past year, having been 20.57 for the fiscal year 1895. At no time during this period has the death rate for the whites been lower, and only once, in 1895, has there been a better showing among the colored people.

The following table shows the variations in the death rates during the past twenty-two years:

TABLE A.—*Population, deaths, and death rates for the twenty-two years ended June 30, 1897, based upon results of police censuses.*

Years.	Population.			Deaths.			Death rates.		
	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Total.
1876.....	106,741	59,859	157,600	2,086	2,074	4,160	19.54	40.78	26.40
1877.....	109,505	52,870	162,375	2,187	2,021	4,208	19.97	38.22	25.91
1878.....	112,340	54,960	167,300	2,166	2,065	4,231	19.28	37.57	25.29
1879.....	115,247	57,130	172,377	2,196	2,113	4,309	19.05	36.90	24.99
1880.....	118,236	59,402	177,638	2,085	2,121	4,206	17.63	35.71	23.68
1881.....	121,300	61,760	183,060	2,205	1,931	4,136	18.18	31.27	22.59
1882.....	124,441	64,212	188,653	2,353	2,218	4,571	18.91	34.54	24.23
1883.....	126,300	65,680	191,980	2,270	2,016	4,286	17.97	30.69	22.33
1884.....	131,820	64,670	196,490	2,576	2,238	4,814	19.54	34.61	24.50
1885.....	134,770	66,340	201,110	2,610	2,388	4,998	19.37	35.97	24.85
1886.....	137,790	68,050	205,840	2,442	2,232	4,674	17.72	32.80	22.71
1887.....	140,880	69,800	210,680	2,484	2,181	4,665	17.63	31.25	22.14
1888.....	144,030	71,600	215,630	2,778	2,262	5,040	19.29	31.59	23.37
1889.....	148,870	73,960	222,830	2,713	2,439	5,152	18.22	32.93	23.12
1890.....	155,550	76,910	232,460	2,934	2,630	5,564	18.86	34.20	23.94
1891.....	162,540	79,980	242,520	3,106	2,614	5,720	19.11	32.68	23.59
1892.....	169,840	83,170	253,010	3,442	2,656	6,098	20.27	31.93	24.10
1893.....	175,550	85,250	260,800	3,677	2,775	6,452	20.95	32.55	24.74
1894.....	179,485	86,115	265,600	3,329	2,710	6,039	18.55	31.47	22.73
1895.....	183,516	86,908	270,424	3,114	2,451	5,565	16.97	28.18	20.57
1896.....	186,866	87,294	274,160	3,302	2,602	5,904	17.61	29.54	21.43
1897.....	188,787	88,176	276,963	3,216	2,521	5,737	17.03	28.59	20.71
Totals and means	3,174,404	1,585,186	4,729,590	59,271	51,258	110,529	18.66	33	23.36

Distributing the deaths according to sex, the death rate for white males is found to be 19.28, while for colored males it is 33.07. Among the female portion of the white race the death rate was 14.79, and among the colored 26.78. The death rate of the males as a whole was 22.72, and that of the females 18.79.

As before stated, the recent police census did not include such information in reference to the age distribution of the population as would enable the usual computations of death rates to be made, viz, the death rates of all under 1 year of age and for those under 5 years. In order to approximate this, however, the number of persons in each of those age periods has been computed upon the basis of the United States census for 1890, assuming that the age distribution in the community is the same as at that time. Upon comparing the results thus secured with the figures given by the police census as to the number under 7 years of age, they appear to be at least approximately correct.

By the method of computation above referred to, the white population under 5 years of age amounted to 16,152 and the colored to 8,321. The corresponding death rates per 1,000 were, therefore, 52 for the whites, 121 for the colored, and 76 for the entire population. The principal causes of death were: diarrheal diseases, 324 deaths; acute lung affections, 332; tubercular diseases, 157; convulsions, 106; congenital debility and premature births, 216.

If the inquiry be limited to those under 1 year of age, we find the population to be 4,389—of whites, 3,503; and of colored, 1,886. The

mortality for this period of life, therefore, reaches the enormous figure of 262 per 1,000 per annum—for the white 189 and for the colored 397.

Distributing the mortality by locality, we find the death rate of the city proper—that is, what was formerly comprised within the cities of Washington and Georgetown—to be 19.39, and that for the county to be 27.92. It should be noted that in determining these death rates due allowance has been made for the deaths occurring in the various asylums and hospitals located in each section, so that this factor may be practically disregarded in making such comparisons as the reader may desire. As a statement of the population and number of deaths for each square within the city and for each portion of the county is published in the appendix, no effort will be made at present to determine the death rate for different parts of the District, otherwise than as stated above. I can not refrain, however, from calling attention to the very considerable excess of the death rate of that portion of the county lying along the Eastern Branch over that for the county as a whole. This district includes the suburbs known as Anacostia, Congress Heights, Garfield, Giesboro, Hillsdale, Harrison street, Good Hope, Twining City, and Benning. These contain a population of 6,589, exclusive of the inmates and attendants of the Government Hospital for the Insane. The number of deaths actually reported from this population was 210. Upon the basis of population, it is fair to assume that of the 1,151 persons who died in the asylums and hospitals during the year 26 came from this section. The total deaths would therefore amount to 236, and the death rate would be 35.82 per thousand. When compared with the death rate of the county as a whole (27.92) it is evident that in this section local causes must be at work to make the difference, and it would appear probable that some, at least, of these causes might be removed and the death rate lowered. The most evident feature of this section which appears likely to account for such an abnormal mortality is the vast tract of marsh commonly known as the Eastern Branch Flats, and the most important step toward lowering the death rate would seem to be the removal of these flats. If, after this has been done, or at the same time, if possible, proper systems of drainage be introduced into such of these subdivisions as are not now so provided, and a water supply be introduced which will permit the abandoning of the shallow wells which are now in use, there is every reason to believe that the diminution in the death rate would amply repay the cost, however great it might be.

Altogether the most remarkable feature of the mortality tables is the unexpectedly low death rate in the alleys. For all alleys in the District of Columbia the death rate is 20.34, or somewhat lower than that for the District as a whole. But in view of the fact that no deaths appear to have been reported from any of the alleys outside of the city, it seems probable that deaths occurring in these places have not been accurately located on the death returns, owing, possibly, to the open character of the country in which they are situated. Our inquiry may, therefore, be properly confined to the alleys within the city. Here we find a death rate of but 7.93 for the whites, 22.67 for the colored, and 20.95 for the entire population. While it has not been practicable in this case to make corrections for deaths of alley residents which occurred in hospitals, it does appear that such correction would materially alter the result.

The comparative mortality in the various alleys, having reference to the number of inhabitants in each, is interesting and instructive. In

243 alleys, each having a population not exceeding 100, the death rate was 18.47; in 43 alleys, with populations between 101 and 200, the death rate was 21.08; in 13 alleys, having between 201 and 300 inhabitants, the death rate was 22.78, and in 2 alleys, with populations between 301 and 400, the death rate was 35.70. But in the single alley having a population in excess of 400—that is, 422—there was not a single death reported. So that while the general death rate in the alleys does not bear out preconceived ideas, the death rates as given above indicate, in a general way, that the danger of these places increases with the increase in the number of inhabitants.

Classifying the mortality according to causation we find an increase since last year in the deaths from constitutional and developmental diseases, and a decrease in the number from zymotic and local causes and from violence. From the standpoint of public health, the most important of these classes is, of course, the zymotic, which includes most of those diseases which may be regarded as preventable. Some special importance attaches, however, to the constitutional class, owing to the presence in it of the tubercular diseases, having been inserted in this class before definite knowledge was acquired as to their causation, and being allowed to remain until some general plan for the classification of vital statistics can be adopted throughout the country. Deaths from violence are of interest chiefly from a sociological standpoint.

Deaths by classes, arranged by sex and color, with percentages and annual death rates for year 1897, and 1896.

TABLE B.—YEAR ENDED JUNE 30, 1897.

Cause of death.	Deaths.						Percentages to total deaths.				Annual death rate.			
	White.		Colored.		White.	Colored.	Total.	White.		Colored.		White.	Colored.	Total.
	M.	F.	M.	F.				M.	F.	M.	F.			
Zymotic	299	278	197	253	577	450	1,027	16.86	19.27	16.27	19.31	3.05	5.13	3.71
Constitutional	332	300	287	328	632	615	1,247	18.72	20.79	23.70	25.04	3.35	6.96	4.50
Local	881	631	565	566	1,512	1,131	2,643	49.69	43.73	46.66	43.21	8.00	12.83	9.55
Developmental	142	208	106	137	350	243	593	8.01	14.40	8.75	10.46	1.85	2.75	2.15
Violence	119	26	56	26	145	82	227	6.71	1.81	4.62	1.98	.76	.93	.82
Total	1,773	1,443	1,211	1,310	3,216	2,521	5,737	100	100	100	100	17.01	28.60	20.73

TABLE C.—YEAR ENDED JUNE 30, 1896.

Cause of death.	Deaths.							Percentages to total deaths.				Annual death rate.		
	White.		Colored.		White.	Colored.	Total.	White.		Colored.		White.	Colored.	Total.
	M.	F.	M.	F.				M.	F.	M.	F.			
Zymotic	381	312	292	262	693	554	1,247	21.05	20.92	22.64	19.97	3.60	6.30	4.53
Constitutional	295	323	273	310	618	583	1,201	16.30	21.63	21.16	23.63	3.30	6.63	4.36
Local	879	668	568	576	1,547	1,144	2,691	48.56	44.78	44.03	43.90	8.25	13.01	9.77
Developmental	130	153	101	147	283	248	531	7.18	10.26	7.83	11.20	1.51	2.71	1.92
Violence	125	36	56	17	161	73	234	6.91	2.41	4.34	1.30	.86	.83	.85
Total	1,810	1,492	1,290	1,312	3,302	2,602	5,904	100	100	100	100	17.61	29.48	21.43

Zymotic diseases.—The entire number of deaths from zymotic diseases was 1,027, being 220 less than during the preceding year, and forming 17.90 per cent of the deaths from all causes. Of this number 577 were whites and 450 colored; 577 were children under 5 years old.

In certain diseases of this class the number of fatal cases shows an increase; thus the deaths from diphtheria increased from 75 to 110; from whooping cough, from 22 to 65, and from grippe, from 53 to 118. But the fatal cases of measles diminished from 70 to 3; from scarlet fever, from 13 to 1; from croup, so-called, from 9 to 6; from typhoid fever, including so-called typho-malarial fever, from 240 to 153; from malarial fever, from 72 to 51, and from diarrheal diseases, from 468 to 358.

The number of deaths from diphtheria is not excessive, as, except during the year immediately preceding, it has not fallen so low since 1889. The mortality from this disease is further discussed in connection with the consideration of the operations of the department under the scarlet fever and diphtheria law.

The number of deaths from whooping cough indicates a marked increase in the prevalence of this disease, but in the absence of any law requiring the report of cases the extent of such increase can not be ascertained with any degree of accuracy.

Grippe first appeared upon the mortality tables during the latter part of December. In January it caused 21 deaths, in February 52 deaths, and in March 24 deaths. From that time it declined, but a single death being reported during June. It prevailed mostly among persons of advanced age, 74 of those who died being over 50 years of age. Seven of the deaths occurred among children under 5 years old.

There is no record of a year passing prior to that now under consideration with but a single death from scarlet fever. A statement as to the mortality from this disease in other places is made in connection with the consideration of the operations of the department under the scarlet fever and diphtheria law.

The most important feature in the decrease in the number of deaths from zymotic diseases is the diminution in the number of fatal cases of typhoid fever and diarrheal diseases. And while malarial fever itself can not be properly classed with such diseases, the extreme rarity of fatal cases of this disease in this climate, in the practice of many of the best informed physicians, renders it not unlikely that many of the deaths reported as due to it were in reality due to typhoid fever. So that the apparent decrease in malarial fever may be considered in this connection. The decrease was as follows:

	1896.	1897.
Typhoid fever	240	153
Diarrheal diseases	468	358
Malarial fever	72	51
Total	780	562

While it is not safe to base conclusions upon this improvement in the death rate for a single year, yet its coincidence with the closing of a very considerable number of surface wells; with the replacement of a very considerable number of box privies with running closets, and the proper drainage of the premises; and with a closer supervision of the milk supply, is very suggestive of some relation of cause and effect, and possibly justifies us in expecting further improvement in the future. The present diminution in the typhoid fever death rate is especially

satisfactory, as it had increased continuously since 1887. The death rate from this disease during the past year (0.53 per 1,000) is the lowest since 1884, and is considerably lower than the average for the past twenty-two years (0.64).

Constitutional diseases.—There were 1,247 deaths from diseases of this class, being 21.73 per cent of the mortality from all causes. Of this number 632 were white and 615 colored.

The greater part of the deaths in this class were due to the various forms of tuberculosis, the deaths from this cause numbering 1,053, of which 776 were from pulmonary phthisis. These diseases have been, as usual, much more prevalent among the colored than among the whites, the death rate for the former being from the pulmonary variety alone 4.67, while that for the latter was but 1.94.

Local diseases.—In this class there were 2,643 deaths, being 46.05 per cent of the total mortality. Of these 1,512 were white and 1,131 colored.

From diseases of the nervous system 685 deaths occurred, 11.94 per cent of the total mortality. Of these 437 were white and 248 colored. Cerebral hemorrhage caused 205 deaths; convulsions (mainly infantile), 108 deaths; meningitis, 69 deaths; epilepsy and insanity, 82 deaths, and heat stroke, 43 deaths.

Diseases of the circulatory organs caused 423 deaths, 7.37 per cent of all, 244 being white and 179 colored. Of this number 308 were valvular diseases of the heart and 15 were reported as due to angina pectoris.

From diseases of the organs of respiration, except pulmonary tuberculosis, there were 764 deaths—386 white and 378 colored. Of these 509 were from pneumonia and 193 from bronchitis and congestion of the lungs. The largest mortality occurred during the months of January, February, and March. Forty-five per cent of deaths in this class occurred in children under 5 years of age.

Diseases of the digestive organs caused 408 deaths, the principal causes being gastric and enteric catarrhs, cirrhosis of the liver, and peritonitis. Of the decedents 225 were white, 183 colored, and 183 children under 5 years of age.

From diseases of the urinary organs 306 deaths occurred, of which 185 were from nephritis. Bright's disease was reported as causing 52 deaths; enlarged prostate 10, and cystitis 11.

Diseases of the generative organs were charged with 27 deaths—13 white and 14 colored; all females. Of these, 11 were due to fibroids of the uterus and 10 to pyosalpinx and salpingitis. Certain diseases of these organs are charged among the developmental diseases, the above figures being susceptible of misinterpretation unless this be borne in mind.

Diseases of the osseous and locomotary systems caused 22 deaths, principally gangrenes and osseous necroses. Integumentary affections caused 8 deaths, of which 7 were from sarcomatous formations.

Developmental.—In this class, which includes diseases incident to childbirth, infancy, and old age, not otherwise classified, there were 593 deaths, of which 277 were infants, 68 women in the puerperal state, and 248 the aged. There were 34 deaths reported as due to puerperal infections, 7 to abortions, and 4 to umbilical hemorrhage.

Violence.—There were 227 deaths from violence during the year, of which 168 were accidental, 11 homicidal, and 47 suicidal.

Of the accidental deaths 101 were of whites and 67 of colored. In 29 cases death resulted from drowning; in 28 from falls; in 22 from burns and scalds; in 15 from injuries received from steam railways; in 9 from

injuries received from street cars; in 5 from gunshot wounds; in 9 from poisons, and 7 from traumatic tetanus. The number of deaths from injuries from steam railways is, of course, in excess of the number of fatal accidents from such conveyances in the District of Columbia, as not infrequently persons who have been seriously injured in adjoining States are brought here for treatment, while the reverse seldom occurs.

Of the homicidal deaths, 5 resulted from gunshot wounds, 3 from stabs, and 2 from blows on the head.

Of the suicidal deaths, 17 resulted from pistol shots, 10 from the inhalation of illuminating gas, 13 by poison, and 2 by hanging.

The number of deaths from suicide shows an increase of 9 over the corresponding figures for the preceding year, and an increase of 6, or almost 15 per cent, over the highest number previously recorded. The average number of suicides per annum during the past twenty-two years has been 17.20; during the five years' period, 1878 to 1882, it was 12; from 1883 to 1887, it rose to 17.40; during the following five years, 1888 to 1892, it was 23.20, and during the period just ended, 1893 to 1897, it was 39.40. The population has not doubled, but the number of suicides has increased more than threefold.

BIRTHS.

The total number of births reported was 4,573, of which 2,761 were of whites and 1,812 of colored. If, however, we accept the estimated population below 1 year of age as correct, 816 births occurred which were not reported. The birth rate, even when based upon the estimated number of births and not upon those of which official returns were made, falls below the death rate for the colored, being 21.39; and for the entire population being 19.46.

In the case of whites the balance is slightly in favor of the birth rate, being 18.03.

The births reported as illegitimate numbered 573, of which 96 were white and 477 colored. During the preceding year the number of such births reported was 617.

Of the entire number of birth returns, 2,466 were received from physicians and 2,107 from midwives.

STILLBIRTHS.

The returns of stillbirths amounted to 487—187 whites and 300 colored—while during the preceding year returns were received in 520 cases. Of this number 153 were illegitimate—33 white and 120 colored. The returns were made by the coroner in 118 cases, which usually had reference to bodies which had been abandoned in public places. The number that went to full term was 197, and in three instances pregnancy was reported as having proceeded to the tenth month. The chief causes alleged were difficult labor in 24 cases, falls by mother in 14, overexertion by mother in 21, placenta previa in 9, and syphilis in 11.

MARRIAGES.

Returns were received from 1,519 marriages—between whites 984, and between colored 535.

The number of marriage licenses issued by the clerk of the court during the fiscal year 1896 was 3,618, while during the past year it was but 2,476. As it is a reasonable presumption that each such license represents a marriage, the approximate number of failures to make the

return required by law was 957, or 39 per cent of the entire number of marriages.

The only remedy for this condition is the issue of these licenses to particular persons, with the right of assignment if they be unavoidably prevented from performing the ceremony, instead of the issue, as at present, "to any minister or person authorized to solemnize marriages." If such a plan were adopted, it would be possible to require the proper return to be made in each case, as the name of the person who celebrated the marriage would be known. Moreover, the liability for the performance of the marriage ceremony by unauthorized persons, as has been occasionally done in the past, either through ignorance or willful wrong, would be very much diminished. The fact that the adoption of this plan would necessitate the selection of the person who is to perform the ceremony before the license could be secured would not seriously interfere with any well-considered marriage, and the interference with others would probably be beneficial rather than otherwise.

TRANSCRIPTS FROM RECORDS.

The recommendation contained in the preceding report of this department, that a fee be charged for transcripts from the records, was put into effect by the passage of an act authorizing the Commissioners of the District of Columbia to charge a fee for the issuance of transcripts from the records of the health department, approved March 3, 1897, which took effect thirty days after its passage. Between that time and the end of the fiscal year there was collected the sum of \$54.

As the records from which such transcripts are made cost approximately \$3,000 per annum, it is evident that the fees collected will not begin to pay the cost. But the establishment of this fee has answered the purpose for which it was mainly intended—that is, it has diminished the number of applications for transcripts without any real need therefor on the part of the applicant, as will appear from the fact that the average number of transcripts issued during each working day prior to the passage of the act was 3.55, while after the act went into effect it diminished to 1.57. The total number of transcripts issued during the year was 957.

OFFICIAL REGISTERS.

Under the act to regulate the practice of medicine, approved June 3, 1896, 966 physicians have been registered at the health department. Of this number 961 have held licenses issued by virtue of registration at the health office at the time of the passage of the present law, and five licenses issued by reason of the licentiates having successfully passed examinations.

No midwives have been registered, no licenses of this class having as yet been issued by the board of medical supervisors, and, under the act above referred to, registration only being granted to holders of such licenses.

The register of dentists shows an increase of twelve during the year. Under the act for the regulation of the practice of dentistry, approved June 6, 1892, licenses from the board of dental examiners are necessary in order to secure such registration.

The register of undertakers, under the regulations to secure a full and correct record of vital statistics, promulgated by the late board of health, shows the total number to be 106. Attention is again invited

to the absence of any legal standard of attainment necessary to entitle one to register as an undertaker; and in view of the sanitary importance of the proper care of the dead, it is respectfully recommended that steps be taken to secure the passage of a law to regulate the practice of this art.

PRIVATE HOSPITALS.

Application has been received for the maintenance of one new private hospital, and one such institution, for the maintenance of which a permit has been asked, has ceased to exist. No formal permits have yet been issued, owing to the vagueness of the law as to the conditions under which such issue should be made. It is hoped that some action may be taken during the coming year to secure such modifications of the present law as are necessary for its intelligent enforcement.

CEMETERIES.

There has been no change in the number or location of cemeteries in this District during the past year.

A bill prepared by this department for the regulation of cemeteries and the disposal of dead bodies was passed by both Houses of Congress, but failed to become a law by reason of the failure of the President to sign it, owing, it is believed, merely to the extremely late hour of his official life at which it was presented to him for that purpose. The same bill was introduced at the subsequent extraordinary session, passed the Senate, and is now on the House Calendar.

The recommendation made in the two preceding reports of this department that a crematory be erected as an adjunct to potter's field is respectfully renewed. If all bodies to be interred in this tract of land be cremated before interment, it will last for an indefinite period; but unless some such provision be made, additional land must soon be purchased or the present site will be so overcrowded as to become a nuisance and a menace to the health of the unfortunate inmates of those institutions located in its immediate vicinity. Such a crematory, if erected, will be of service, from a sanitary standpoint also, for the destruction of the remains of those dying of the graver contagious diseases.

The need of a municipal crematory was recognized by the grand jury of New Orleans in 1883, and the establishment of a crematory for the incineration of the bodies of those dying of contagious diseases recommended. In 1888 the New York State legislature, acting upon a recommendation of a committee of the Society of Medical Jurisprudence and State Medicine, required the commissioners of quarantine to erect and establish a crematory for the destruction of the bodies of persons dying at the contagious hospital from contagious diseases. The recommendation of this committee was accompanied by a draft of a bill which provided not only for the incineration of the remains of persons dying of contagious diseases, but also of the remains of paupers and unidentified persons. And the health department of the city of Philadelphia maintains a crematory for the same purpose.

ANATOMICAL MATERIAL.

During the past year bodies to be used for scientific purposes have been offered for distribution by the various hospitals, and have been distributed to the various medical colleges, as shown in the following table:

TABLE D.—Distribution of cadavers.

			1896.													
			No. of students.	Percentage.	July.		Aug.		Sept.		Oct.		Nov.		Dec.	
					Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.
From—																
Freedmen's.....											1		2		1	
Washington Asylum.....					1		1		3		1		2		2	
Providence.....																
Columbia.....													1			
Garfield.....																
Total.....					1		1		3		2		5		3	
To—																
Georgetown University <i>a</i>			85	20.80	1						1		2			
National University.....			33	8.00								1				
Howard University.....			102	25.00					1						1	
Columbia University.....			189	46.20			1		1			1			2	
Army Medical School.....											1					
Total.....					1		1		3		2		5		3	

			1897.										Total.			
			Jan.		Feb.		Mar.		Apr.		May.		June.		Good.	Post.
			Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.	Good.	Post.		
From—																
Freedmen's.....			1	2	2	3	1		8	1					16	6
Washington Asylum.....			4	1	2	1			2		1		2		22	1
Providence.....																
Columbia.....															1	
Garfield.....						1									1	
Total.....			5	3	4	3	3		10	1	1		2		40	7
To—																
Georgetown University <i>a</i>			1	1			1		7		1		2		16	1
National University.....						2			2						4	2
Howard University.....			1	1	2		1		1						8	1
Columbia University.....			2	1	2	1	1			1					10	3
Army Medical School.....			1												2	
Total.....			5	3	4	3	3		10	1	1		2		40	7

a By an agreement between representatives of all medical schools Georgetown University received all bodies offered for distribution during the summer of 1895; hence the large number delivered to this institution in excess of its regular quota.

The total number of bodies so distributed has been but 47, of which 7 had been subjected to post-mortem examinations prior to delivery. The plan of distribution has been the same as was described in the preceding report of this department, but the supply of material has been too small to meet the requirements of those engaged in medical education. As the Government, which in the interest of public health very properly makes certain educational requirements of those desiring to practice medicine, should properly be interested in securing for students of that art means whereby they can prepare themselves to meet those requirements, it is recommended that the law under which these bodies are distributed be so amended as to make it mandatory

upon those in charge of hospitals and asylums to deliver for scientific purposes such bodies as they are now permitted to deliver if they be so inclined. The care and distribution of such bodies might, with advantage, be intrusted to a commission created for that purpose, as is done in Pennsylvania.

RELIEF OF THE POOR.

The work done by the physicians to the poor is shown by the following table:

TABLE E.—*The sick poor.*

Months.	Patients treated.	White.	Colored.	Visits made.	Office consultations.	Cost of medicine furnished.
1896.						
July	1,130	452	678	1,817	273	\$156.90
August	1,487	637	850	2,514	332	196.15
September	1,473	662	811	2,435	326	155.75
October	1,066	490	576	1,785	287	203.25
November	922	425	497	1,677	212	136.55
December	1,105	491	614	1,997	264	176.05
1897.						
January	1,344	497	847	2,380	229	226.35
February	1,322	489	833	2,338	214	210.45
March	1,282	468	814	2,289	217	177.50
April	923	392	531	1,708	197	127.30
May	880	339	541	1,495	230	121.80
June	971	406	565	1,604	238	160.45
Total	13,905	5,748	8,157	25,039	3,013	2,048.50

To the cost of medicines given in column above must be added, in order to give correct amount expended for medicines during fiscal year, tablet triturates, \$199.42; antitoxic serum, \$59.50; for supplies furnished homeopathic physicians to the poor for April, May, and June, 1897, \$48; making total cost of medicines for fiscal year 1897, \$2,355.42.

TABLE F.—*The sick poor for fifteen years.*

Years.	Patients treated.	White.	Colored.	Visits made.	Office consultations.	Cost of medicine furnished.
1883	15,611	5,347	10,264	22,542	4,122	\$3,156.85
1884	16,121	5,022	11,099	22,633	5,085	2,900.10
1885	15,211	4,692	10,519	21,160	4,204	2,911.75
1886	16,901	5,430	11,471	21,824	5,659	3,862.75
1887	15,795	5,072	10,723	21,340	4,501	2,097.00
1888	15,352	4,745	10,607	21,722	3,934	3,607.60
1889	14,575	4,842	9,733	19,919	4,239	3,059.65
1890	16,576	5,619	10,957	22,547	4,410	3,352.25
1891	13,238	4,641	8,597	18,728	3,177	2,526.25
1892	12,637	4,338	8,299	16,746	2,997	2,503.08
1893	12,430	4,079	8,351	19,037	2,468	2,753.55
1894	16,109	6,112	9,997	26,210	3,356	3,636.36
1895	15,150	6,186	8,964	23,625	2,973	3,347.10
1896	15,606	6,893	8,713	26,556	2,472	2,806.65
1897	13,905	5,748	8,157	25,039	3,013	2,355.42

From the above table it appears that the number of patients treated during the past year, either taken as a whole or with reference to the white and colored elements, has been smaller than at any time since 1893. It should be borne in mind, however, that the figures given to show the number of patients treated are absolutely worthless except for the purposes of comparison, and that they are not of much value

even for this, since they merely indicate the sum of the patients reported each week as being under treatment, so that a single patient, if he happens to be under treatment during a portion of two weeks, will appear as two patients. An effort will be made to correct this method of keeping the records prior to the issue of another report.

More accurate information as to the amount of work done may be gathered from the number of visits and office consultations. These amounted to 28,052, while during the preceding year there were 28,028.

The average cost of each patient has been 52 cents for medical attendance and 17 cents for medical supplies, making a total cost of 69 cents per "patient," using the term in the manner previously explained. The amount received by each physician for each visit or consultation has been, approximately, 26 cents.

Attention is invited to the recommendations of this department of June 17, 1897, in reply to a letter from the Congressional Joint Select Committee to Investigate Charities and Reformatory Institutions in the District of Columbia, which has been printed in the hearings before that committee. (See Senate Doc. No. 185, Fifty-fifth Congress, first session.) These recommendations are, in so far as they relate to the physicians to the poor, respectfully renewed.

CONTAGIOUS DISEASES.

SCARLET FEVER AND DIPHTHERIA SERVICE.

Scarlet fever.—There were reported during the past year 160 cases of scarlet fever, of which 148 were white and 12 colored. The incidence per 10,000 of the population was, therefore, 7.84 among the whites, 1.36 among the colored, and 5.74 among the population as a whole. These figures show a marked diminution in the prevalence of this disease during the year. That the type of the disease which has occurred has been exceedingly mild is shown by the occurrence of but a single death, a fatality of but 0.6 per cent.

TABLE G.—*Reported cases of scarlet fever.*

Years.	Ratio per 10,000 of population.			Percentage of fatal cases.		
	White.	Colored.	Total.	White.	Colored.	Total.
1893-94.....	12.20	1.72	8.83	6.25	.....	5.85
1894-95.....	20.36	5.12	15.50	3.66	4.44	3.74
1895-96.....	14.95	2.84	11.10	3.56	12	4.24
1896-97.....	7.84	1.36	5.74	.67	.....	.62

The extent to which scarlet fever has prevailed in the various parts of the United States during the year is indicated in the following statement. While the figures given can not be accepted as mathematically accurate, they are subject only to the same sources of error as other vital statistics. So far as is known there is no reason to believe that the amount of such error is greater in one place than another, so that for purposes of comparison they may be accepted as substantially correct.

Incidence of scarlet fever in fifteen cities in the United States during the year ended June 30, 1897.

Cities.	Per 10,000 of population.		Cities.	Per 10,000 of population.	
	Reported cases.	Deaths.		Reported cases.	Deaths.
Boston	38.60	3.30	Omaha	7.90	.57
New York	32.90	2.10	Atlanta	7.20	.85
Philadelphia	22.70	1.70	Washington	5.70	.03
Detroit	20.30	1.30	San Francisco	4.70	.16
Baltimore	19.30	.94	Milwaukee	3.90	.26
1895-96	18.10	.57	New Orleans	3.10	.67
Pittsburg	14.90	.55	Chicago	(a)	.47
Cleveland	8.40	.17			

a Report of cases inaccurate.

Diphtheria.—During the year there has been reported among the white portion of the population 494 cases of diphtheria, 78 of which terminated fatally, and among the colored 126 cases, of which 32 were fatal. The incidence of this disease per 10,000 of the population was among the whites 26.16, among the colored 14.29, and among the entire population 22.38, showing a marked increase in prevalence during the past year, as shown in Table H.

TABLE H.—*Reported cases of diphtheria*

Years.	Ratio per 10,000 of population.			Percentage of fatal cases.		
	White.	Colored.	Total.	White.	Colored.	Total.
1893-94	14.06	20	15.97	43.41	34.48	39.81
1894-95	15.72	13.31	14.95	30.84	28.20	30.09
1895-96	15.24	4.54	11.84	23.67	25	23.41
1896-97	26.16	14.29	22.38	15.79	25.39	17.74

The cause of this increase it has not been possible to determine, but there is no reason to believe that it was in any way due to local conditions, as a similar increase was noted in many places situated in widely separated parts of the United States. The actual extent to which this disease prevailed in the various places during the period covered by this report is fairly shown in the following statement:

Incidence of diphtheria in fifteen cities in the United States during the year ended June 30, 1897.

Cities.	Per 10,000 of population.		Cities.	Per 10,000 of population.	
	Reported cases.	Deaths.		Reported cases.	Deaths.
Boston	89.10	10.40	Washington	22.30	3.90
New York	56.40	7.50	Baltimore	14	5.40
Detroit	45.80	11.20	Omaha	13.10	3.20
Buffalo	38	7.60	New Orleans	11.90	1.70
Milwaukee	33.80	6.50	San Francisco	8.60	.40
Philadelphia	33.20	8.30	Atlanta	1.80	
Pittsburg	22.70	5.80	Chicago	(a)	5.20
Cleveland	22.30	4.80			

a Report of cases inaccurate.

The remarks made in reference to the sources of error in the corresponding table in reference to scarlet fever apply with equal force to the present instance.

While the incidence of diphtheria among the colored people was less than among the whites, the fatality was much greater, viz, 23.36 among the colored, 16.15 among the whites, and 17.74 among the population taken as a whole. These figures are, however, in each instance less than they have been for any one of the three preceding years. A detailed statement showing the relative fatality in cases treated with diphtheria antitoxic serum and those treated without it will be found in the report of the medical sanitary inspector. The status of this article as a remedial agent seems to be too well established to require further discussion.

The examination of cultures from cases suspected of being diphtheria has been continued as during the two preceding years, the cost being paid from the meager appropriation for the enforcement of the act to prevent the spread of scarlet fever and diphtheria. The extent of the demand for this service is indicated by the presentation of 942 primary cultures (viz, cultures from cases suspected of being diphtheria) for purposes of diagnosis, as against 593 during the year preceding. In only 44.59 per cent of these cultures were specific diphtheria bacilli found. The total number of cultures examined, both primary and secondary, was 2,179.

Disinfecting service.—It is to be regretted that no appropriation has been made for the maintenance of the disinfecting service, the establishment of which was authorized by the act of March 2, 1895. As a result, the disinfection of infected premises has to be intrusted to the unskilled, and in many cases unwilling hands of the occupants, with correspondingly unsatisfactory results. Such movable articles as require steam disinfection have been removed to the disinfecting station and properly treated. There have been disinfected in this manner 1,051 pillows, 578 mattresses, 568 blankets, 210 rugs, and 1,248 miscellaneous articles, making 3,655 pieces in all. Many of these, however, have probably been immediately reinfected upon their return to the imperfectly cleansed apartments from which they were taken. The public must look to the proper disinfection of infected premises for its immunity from contagious disease quite as much as to the proper isolation of the sick. And as in nearly every instance the families in which such diseases occur neither have nor are able to secure trained assistants to perform such disinfection, it is necessary that means be provided at public expense whereby this work may be done. An appropriation for the maintenance of a disinfecting service is, therefore, respectfully recommended.

Ambulance for contagious diseases.—An important addition to the equipment of the health department has been made during the past year by the purchase of an ambulance for the transportation of patients suffering from scarlet fever and diphtheria to the hospital, when hospital accommodations can be secured. It has already been of service in a number of cases.

Isolation wards.—It is expected that another step in advance will be made during the coming year by the erection of wards for the treatment of patients suffering from minor contagious diseases, for which an appropriation of \$30,000 is now available. The assistance rendered during the past year by those in charge of Providence Hospital in receiving and caring for cases of scarlet fever and diphtheria is gratefully acknowledged. The fact that in treating such cases there has

been no spread of either disease in the vicinity of the hospital, or even in the institution itself, although improved appliances for preventing it have not been available, should have influence in convincing the public that a hospital or ward for the treatment of these diseases is not a menace to health.

Legislation.—The law under which the scarlet fever and diphtheria service has been maintained is seriously in need of amendment to make it more effective. It was proposed to accomplish this purpose by including the diseases named in the provisions of the bill introduced during the second session of the Fifty-fourth Congress to prevent the spread of the graver contagious diseases, as smallpox, yellow fever, Asiatic cholera, etc., but it was found inexpedient to do so. It is hoped that the needed legislation can be secured during the approaching session of Congress.

Expenses of service.—The cost of the scarlet fever and diphtheria service has been approximately \$5,000.

MAJOR CONTAGIOUS DISEASES.

While the District of Columbia has not been afflicted with any of the graver forms of contagious disease during the past year, and with reference to most of them not for many years, if at all, it was thought desirable to secure the authority necessary for the proper management of any cases which may hereafter occur. For this reason a bill to prevent the spread of such diseases in the District of Columbia was presented to Congress, and became a law on March 3, 1897. Having now secured the right to regulate the management of such diseases, it is essential that money for carrying the provisions of the law into effect be made available for immediate use, should occasion require. For this purpose I have asked for an appropriation of \$25,000.

Under the present system the emergency fund is the only appropriation from which the expenses of suppressing an outbreak of any of the diseases named can be met. The amount of this appropriation is usually \$8,000, and from this it is necessary to meet all emergencies which are not otherwise provided for. For instance, the expense of removing the bodies of dead horses from the Knox fire was paid from this appropriation; so, also, was the cost of the removal of debris from the streets which resulted from the severe storm of September 29, 1896. When subject to draft for such purposes, it is evident that the fund may be almost entirely exhausted early in the fiscal year, or at least long before its close, so that the sum remaining for the suppression of an outbreak of any contagious disease may be insignificant. On the other hand, with the creation of a fund for this specific purpose, there will be no additional expense, as it will probably lie idle most of the time, being available only for the one purpose; but if, on the other hand, it is needed, it will be ready without delay, and prompt action is of prime importance in such matters. The establishment of an epidemic fund is therefore urgently recommended.

INSPECTION OF FOREIGN VESSELS.

There were inspected and passed at the port of Washington between July 1, 1896, and June 9, 1897, 8 vessels from foreign ports, 5 coming from St. Johns, New Brunswick, with cargoes of laths, and the remainder bringing asphalt from Trinidad. The inspection of such vessels was discontinued upon the date last mentioned, as at that time the United

States Marine-Hospital Bureau established a quarantine station at Alexandria, Va., at which all inbound vessels must be inspected and passed before being permitted to proceed to this city.

CONTAGIOUS DISEASES OF ANIMALS.

During the past year the District has been entirely free from glanders, and has had but one case of hog cholera.

Seven cases of alleged rabies have been investigated in the laboratory of the Bureau of Animal Industry, upon request of this department, but in only one case was the disease found to be present.

PERMITS TO ROPE OFF STREETS AND ALLEYS.

Under the order of the Commissioners of August 23, 1883, intrusting to the health department the issue of permits to prevent the passage of vehicles in neighborhoods where persons are so seriously ill as to make such a step necessary, there have been issued 417 permits, an increase of 81 since last year. And not only has the number of permits increased, but the average time of obstruction in each case was greater, being 9.20 days, as compared with 7 days during 1896, and the number of physicians from whom certificates were received has increased from 252 to 318; that is, the number of permits has increased 24 per cent, the average time covered by each permit, 31 per cent, and the number of physicians certifying, 26 per cent. From the preceding figures it is apparent that the demand for the issue of these permits is increasing without any sufficient explanation therefor.

TABLE I.—*Permits issued to rope off streets and alleys to cause temporary suspension of travel in consequence of serious illness, etc.*

Fiscal years.	1896.						1897.						Total.	Total permit days.	Average time of each permit.	Total number of physicians certifying.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.				
1893.....	10	14	8	6	6	4	1	6	3	4	9	11	82	427	5.2	56
1894.....	11	12	8	11	4	4	5	4	6	4	5	12	86	860	10	62
1895.....	16	12	9	7	7	2	5	.....	8	3	13	9	91	670	7.3	71
1896.....	9	13	15	3	4	2	3	1	.....	7	7	12	77	428	5.5	63
1897.....	19	15	9	5	2	5	4	1	5	.....	6	10	81	624	7.7	66
Total.....	65	66	49	32	23	17	18	12	22	18	40	54	417	3,009	9.2	318

In fact, there would seem to be less real need in this city for such obstruction of traffic on account of the large extent of asphalt streets than in other cities not so favored, but the custom of issuing such permit for this purpose, or permitting it to be done, does not prevail elsewhere. The practice, therefore, can hardly be justified on the score of necessity, except possibly in very rare instances. The recommendations contained in the preceding report for its restriction are therefore respectfully renewed.

CHEMICAL LABORATORY.

Attention is invited to the fact that the annual appropriation which has usually been made for the support of the chemical laboratory was withdrawn during the past year, entailing a serious drain upon the

contingent fund of the office, which was not increased to meet it. The work of the laboratory was therefore correspondingly hampered; and while the salary of the sanitary and food inspector in charge of this laboratory has been increased so as to be slightly more in keeping with the degree of technical education required, no provision has been made for an assistant to relieve him of the mechanical work of caring for apparatus, etc. The absence of such an assistant, who might be secured for a salary of from \$600 to \$800 per annum, is in the end an extravagance, since it very much diminishes the amount of work which can be done and increases the relative cost by causing the time of the chemist, which must be paid for at the rate of \$1,500 per annum, to be occupied with the performance of minor details of office work. The estimates which have been submitted have included, therefore, an appropriation for the services of an assistant.

There have been analyzed during the year 588 specimens, of which 258 were milk, 6 cream, 185 water, 107 foods (including candies), 17 drugs, and 15 miscellaneous articles. Of the analyses included under the last heading, 5 were of specimens received from and analyzed for the coroner. The consideration of the results of the analyses of the samples of milk and cream will be found in connection with the general consideration of milk inspection, and of those of foods and drugs in connection with the memoranda in relation to the inspection of those articles.

Of the 185 samples of water examined, 115 were from public wells and 65 from private wells, the remaining 5 being analyses of Potomac water.

Well water.—Of the samples of water from public wells, 14.7 per cent, and of those from private wells 49.2 per cent have been found impure.

This difference is due partly to the greater care exercised in the construction and maintenance of public wells, but it is brought about to a certain extent by the fact that analyses were made of water from public wells from time to time, as a part of the ordinary routine of the office work, and in the absence of circumstances pointing directly to pollution, while in the case of private wells no such supervision is exercised, analyses only being made upon request of the owner, or when the department has reason to believe that impurities are present.

As shown by the report of the engineer department, 11 public shallow wells were closed during the year, representing 7.64 per cent of the entire number, and leaving 133 in use. Twenty deep wells have been sunk, making a total of 21 such wells now in use. One well of this character was abandoned owing to the presence of sodium chloride in excess, even after considerable depth had been reached.

Potomac water.—The chemical analyses of Potomac water have not revealed the presence in excessive amount of any of those ingredients upon whose presence the chemist depends in order to determine its "potability." The fallacy of chemical tests alone, however, as criteria of the quality of water from a sanitary standpoint is now so generally admitted that the above findings can not be allowed to negative the fact that intestinal bacilli have been repeatedly found in Potomac water. And while no bacilli have been found, at least so far as the information of this department extends, which could be positively identified as those of typhoid fever, or other specific disease, the finding of such organisms in any public water supply is exceedingly rare, judgment being usually based upon the presence of allied bacilli. It has been pointed out that the presence of such bacilli in the Potomac water may be due to harmless sources of contamination; that is, other than drainage from towns situated on the Upper Potomac and its tributaries;

but in view of the large number of people living in these towns and the present knowledge as to the unreliability of "self-purification" of running streams as a means of destroying contamination from such sources, this seems to be the most probable origin.

Because of the conditions pointed out above, this department recommended, December 2, 1895, that the Potomac basin be surveyed with especial reference to the present and prospective sources of contamination of our water supply, with a view to determining what measures, if any, were necessary to remove, and to prevent the recurrence of, pollution resulting therefrom. Col. George H. Elliott, U. S. A., formerly in charge of the Washington Aqueduct, had already recommended, in his annual report for 1894, that provision be made for a systemic monthly chemical and bacteriological examination of the Potomac water as it is sent to the city from the distributing reservoir. An effort was made during the past year to put into effect both of these recommendations by a joint resolution (S. R. 194) to establish a commission to investigate the sources of contamination of the Potomac River, etc. This was subsequently replaced by a proposed amendment to the sundry civil bill (H. R. 10292) which gave the entire work into the control of the Marine-Hospital Service, together with similar work in reference to public water supplies throughout the country, but this amendment was not passed.

The entire matter rests, therefore, in the same place as at the time when the previous recommendation of this department was made, which recommendation is, therefore, respectfully renewed.

School hygiene.—The report of the chemist, which will be found in the appendix, contains much valuable information in reference to the heating and ventilating of our school buildings. Owing to the insufficiency of the apparatus in the possession of the department at the time the investigation was made, the results were not, however, as complete as it was desired they should be. The work will, therefore, be continued.

The sanitary condition of the public schools of this District was the subject of an investigation by a committee appointed by the House of Representatives February 20, 1882, and consisting of Col. John S. Billings, then Surgeon, United States Army, Mr. John Eaton, then Commissioner of Education, and Mr. Edward Clark, Architect of the United States Capitol. Its report was printed in Miscellaneous Document No. 35, Forty-seventh Congress, first session. The conclusions of this committee, which are, it is believed, of sufficient importance to justify their quotation at length, were as follows:

(1) All sides of the building shall be fully exposed to light and air, for which purpose they shall not be less than 60 feet distant from any opposite building.

(2) Not more than three of the floors—better only two—shall be occupied for class rooms.

(3) In each class room not less than 15 square feet of floor area shall be allotted to each pupil.

(4) In each class room the window space should not be less than one-fourth of the floor space, and the distance of the desk most remote from the window should not be more than one and a half times the height of the top of the window from the floor.

(5) The height of the class room should never exceed 14 feet.

(6) The provisions for ventilation should be such as to provide for each person in a class room not less than 30 cubic feet of fresh air per minute, which amount must be introduced and thoroughly distributed without creating unpleasant drafts, or causing any two parts of the room to differ in temperature more than 2° F., or the maximum temperature to exceed 70° F. The velocity of the incoming air should not exceed 2 feet per second at any point where it is liable to strike on the person.

(7) The heating of the fresh air should be effected by indirect radiation.

(8) All closets for containing clothing and wraps should be thoroughly ventilated.

(9) Water-closet accommodations for the pupils should be provided on each floor.

(10) The building should not occupy more than half of the lot.

The school buildings which are erected to-day are modeled along the lines laid down by this committee, and from a sanitary standpoint can be little, if at all, improved upon. The sites which are usually purchased for these buildings are, however, much smaller than the prescribed size, and might be enlarged with great advantage, both for the purpose of providing suitable playgrounds for the pupils and of improving the lighting and ventilation of the building. As, however, the size of the site is usually limited by the amount of the appropriation, it will manifestly be impossible to improve this feature of our buildings unless larger appropriations can be secured.

The chief features of the schools, however, which have received the attention of this department, and in respect of which the recommendations above cited have not been complied with, are the heating and ventilation and the privy accommodations. The system of heating and ventilating which has been for years in general use (the so-called Smead system) is not, in the judgment of this department, satisfactory. The air supply is deficient in moisture, and unevenly distributed through the various rooms. Back drafts occur, which, while detrimental to proper ventilation at all times, are absolutely dangerous when the ventilating system is connected with the privy vaults, as is the case in many of the school buildings now in use. In those which have been erected since the recent appointment of a committee by the Commissioners, to investigate the heating and ventilation of school buildings, this system of vaults has been abandoned, and the water-closets which were introduced in the place thereof are practically separated from the general system of ventilation of the rest of the building; and it has been recommended by this department, March 19, 1897, that steps be taken looking toward the replacement of all such vaults by properly constructed water-closets. It is earnestly hoped that this recommendation can be carried out without delay.

Aside, however, from the matter of separating the heating and ventilating systems from the device for the disposal of excreta, it is desirable that present methods be replaced by the combined direct and indirect system of steam heating and mechanical ventilation. Recently erected buildings have been provided with facilities for mechanical ventilation, but the investigations of this department have shown that they are not at all times in use. Even in these buildings, however, it has not been possible to introduce steam heat because of the insufficiency of the appropriation. It is hoped that either by securing increased appropriations, or by economizing in other directions, it may be possible hereafter to introduce the improved methods of heating and ventilation suggested.

The investigation of the privy accommodations of the various schools, in which this department was assisted by the inspector of plumbing, showed 42 buildings provided with water-closets. In 16 of these such closets were located within the buildings, and in 26 they were in the yards. Dry closets were found within the buildings (the so-called Smead system of dry closets) in 39 instances, and in 17 box privies were located on the premises, but not within the building. The schools having box privies are, of course, county schools so located that sewer connections are impossible. Many of the buildings provided with the system of privy vaults formerly installed in connection with the so called Smead system of heating and ventilation, are, however, so located that sewer connections can be made and the vaults abandoned, which action, as has been recommended above, should be taken as soon as possible. The investigation revealed some defects of more or less importance in

the plumbing of those buildings provided with sewer connections, which are, however, being remedied as rapidly as possible.

The recommendation of the Congressional committee above quoted was that water-closet accommodations for the pupils should be provided on each floor. Provision of accommodations of this kind would not only prove advantageous from a sanitary standpoint, but would tend to diminish the congregation of children about the closets, which is itself objectionable for moral reasons.

The investigation by the health department indicates the need of a superintendent of school buildings—whose duties might without harm be extended to the superintendence of all public buildings—who should have constant oversight of their general sanitary condition. This duty is now intrusted in each case to the principals of the buildings, and the general cleanly condition of the premises indicates that their duty is well performed. But these officials have not as a rule had the necessary technical or mechanical training to fit them for the performance of certain details of such work. For instance, it was found in one case that ventilators in a building had been permanently closed, but by whom or when or by whose authority no one could tell, the principal of the building not being aware of the condition until her attention was called to it. Similarly, defective plumbing was discovered in some cases which the principal of the building could not reasonably be expected to detect. The appointment of practical men having more or less technical education or training, to have general oversight of the condition of school buildings, would, it is believed, tend toward a better sanitary condition as to heating, ventilating, etc., and probably, by causing a more intelligent use of fuel and heat on the part of the janitors, result in a saving that would help to defray the cost of the service.

The proposed introduction of water filters into some of the school buildings, as authorized by an act of Congress approved March 3, 1897, must be considered more in the light of an experiment than in the view of a serious attempt to equip all such buildings with such appliances, as the amount so appropriated is manifestly too small for this purpose.

The recommendation contained in the last report of this department for the establishment of a medical inspection of schools is respectfully renewed, and an appropriation asked for that purpose. The necessity for this is indicated to a certain extent by the fact that in a single month, in the city of Boston, there were discovered in the public schools, by means of such inspection, 137 cases of contagious disease, and in all about 1,700 children who were too ill to remain at school.

Attention is also invited to the previous recommendation in reference to modifications in the present method of distributing schoolbooks and in the arrangement of the cloakrooms, which recommendations are also renewed.

INSPECTION SERVICE.

The inspection force of this department has been increased during the past year by the addition of a veterinary surgeon, who is by law designated as inspector of dairy farms and of live stock. The inspection service, therefore, embraces at the present time general inspection of nuisances, of foods, of drugs, of marine products, of live stock, and of dairies, dairy farms and dairy products, and the supervision of the collection of garbage and dead animals. In view of the scope and amount of this work, the appointment of a chief inspector is respectfully recommended, with a salary commensurate with the duties and responsibilities of the office.

A safeguard to the work of this department was secured in the passage of an act to punish the impersonation of inspectors of the health and other departments of the District of Columbia, approved March 2, 1897.

Nuisances.—As compared with the preceding year, the total number of nuisances reported and abated has diminished, having been 19,116 for 1896, while for the past year it has been but 16,587. This diminution has not been confined to any particular class, but has been generally distributed throughout the list.

TABLE K.—*Consolidated report of nuisances for the year ending June 30, 1897.*

Nature of nuisance.	1896.						1897.						Total.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	
Alleys, filthy.....	20	7	16	3	4	12	.....	5	1	.....	12	17	97
Alleys needing repair.....	1	1	1	.....	.....	.....	.....	.....	.....	.....	1	1	5
Areas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Ashes.....	30	18	14	34	21	19	11	31	62	23	24	13	300
Cellars.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	1	9	13
Drainage, surface.....	170	199	18	45	37	10	4	39	212	138	162	164	1,138
Garbage.....	19	11	3	.....	.....	1	.....	5	5	.....	6	21	71
Gutters.....	1	3	1	6	1	.....	.....	.....	.....	1	3	2	18
Hogpens.....	1	.....	.....	2	.....	.....	.....	.....	3	.....	4	.....	10
Houses, filthy.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	7	7
Houses unfit for habitation.....	1	.....	.....	.....	1	.....	.....	.....	.....	1	.....	4	7
Houses, slaughter.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Houses, no privy.....	7	2	6	2	.....	.....	.....	1	1	2	1	4	27
Hydrants.....	.....	2	1	2	.....	.....	.....	.....	2	.....	.....	.....	7
Lots, filthy.....	23	19	57	20	38	18	5	40	33	12	52	64	381
Lots, stagnant water.....	1	4	.....	.....	1	.....	.....	4	26	3	3	24	66
Manure.....	14	14	14	3	13	3	1	3	9	10	22	21	126
Miscellaneous.....	193	198	86	59	66	43	21	41	64	64	91	101	1,027
Pumps.....	.....	.....	.....	.....	2	7	3	.....	4	7	8	14	96
Pipes, water.....	11	13	9	5	2	.....	.....	5	4	.....	.....	.....	.....
Privies, filthy.....	468	593	614	434	389	281	209	334	420	238	450	467	4,897
Privies, dilapidated.....	3	.....	3	1	6	4	.....	1	1	1	1	6	27
Privies, full.....	434	548	596	431	378	271	206	313	396	273	413	428	4,637
Privies, leaky boxes.....	77	116	87	36	48	29	11	33	26	14	34	44	555
Roofs, leaky.....	.....	6	3	1	.....	12	.....	1	.....	3	.....	.....	26
Sewers.....	43	50	48	35	53	29	29	47	52	37	56	60	539
Sewer connection.....	18	10	15	6	33	16	7	19	88	154	63	43	472
Stables.....	6	15	12	10	7	4	2	3	10	4	34	21	118
Stables, cow.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	2
Streets, filthy.....	2	1	1	1	1	3	.....	1	1	2	3	3	19
Streets needing repair.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Traps, sewer.....	21	11	5	3	11	2	.....	5	.....	.....	5	19	82
Yards.....	129	94	108	95	69	53	41	47	144	87	178	206	1,251
Yards, cow.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Vaults, privy.....	1	.....	.....	2	1	.....	.....	.....	1	.....	1	.....	6
Water-closets.....	54	59	42	34	52	25	36	38	59	33	38	55	545
Wharves.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Total.....	1,747	1,994	1,758	1,270	1,235	851	588	1,016	1,621	1,058	1,626	1,823	16,587

TABLE L.—Consolidated report of nuisances for ten years ending June 30, 1897.

Nature of nuisance.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	Total
Alleys.....	199	166	200	235	345	350	221	424	248	102	2,490
Areas.....	7	24	18	21	27	37	34	32	20	1	221
Ashes.....	.....	.....	.....	.....	757	1,488	1,894	1,102	516	300	6,057
Cellars.....	80	179	141	141	154	151	135	132	64	13	1,190
Drainage.....	412	563	460	518	816	624	1,550	550	691	1,138	7,322
Gutters.....	42	17	21	72	19	46	86	49	36	18	406
Garbage.....	238	221	74	72	44*	531	92	179	301	71	1,814
Hogpens.....	3	17	44	57	48	40	79	26	14	10	338
Houses, filthy.....	8	12	9	15	20	61	58	28	35	7	253
Houses unfit for habitation.....	4	21	11	11	51	180	132	27	.....	7	444
Houses, no privy.....	17	34	32	21	35	39	30	51	40	27	326
Hydrants.....	67	101	123	156	92	80	120	114	30	7	890
Lots, filthy.....	51	116	167	147	192	547	250	194	374	447	2,485
Manure.....	579	629	676	590	523	192	109	236	191	126	3,860
Miscellaneous.....	1,631	2,792	2,627	2,296	2,484	3,179	4,327	2,619	1,779	1,036	24,861
Pumps.....	127	84	2	2	1	2	6	4	.....	1	22
Pipes, water.....	46	90	70	116	220	143	48	17	106	.....	856
Privies, stagnant.....	5,907	6,227	5,444	4,904	3,252	2,934	2,264	5,201	5,308	4,897	46,338
Privies, full.....	5,830	6,148	5,316	4,739	3,176	3,289	2,233	4,372	5,189	4,637	44,929
Privies, leaky boxes.....	675	661	800	547	465	348	247	746	973	555	6,017
Privies, dilapidated.....	58	87	55	30	62	145	63	230	95	27	852
Roofs, leaky.....	3	9	38	12	17	37	85	21	4	26	252
Sewers.....	625	668	604	715	792	734	848	558	561	539	6,644
Sewers, house connection.....	51	172	119	105	72	188	549	375	120	472	2,223
Slaughterhouses.....	.....	.....	5	7	9	2	7	5	2	1	38
Stables.....	184	148	282	221	221	151	256	223	143	120	1,949
Streets, filthy.....	2	1	12	3	7	30	17	33	43	20	168
Traps, sewer.....	66	67	49	58	75	37	113	223	105	82	875
Yards.....	1,726	1,826	1,786	1,637	1,931	2,816	3,333	2,240	1,288	1,251	19,834
Yards, cow.....	14	116	14	5	19	9	1	31	23	1	233
Vaults, privy.....	12	7	6	5	23	10	1	2	6	6	78
Water-closets.....	428	610	522	693	747	767	717	1,069	714	545	6,812
Wharves.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1	5
Total.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16,587	192,701

The most serious difficulty with which the health department has at present to contend in securing the abatement of nuisances is, under the rulings of the court, the absence of liability on the part of the agent for the sanitary condition of the premises under his control unless specifically charged therewith by the owner; and it not infrequently happens that where the owner of the property does not reside within the District of Columbia, and limits the power of his agent to the collection of rents, when a nuisance occurs upon the property for which the owner and not the occupant is by law responsible the agent declines to receive notice to abate the same, or to give information as to the address of the owner, thus leaving the health department practically powerless.

The abatement of nuisance is also delayed, and in some cases practically prevented, where the title to the property is for any reason unsettled.

There not infrequently occur, therefore, conditions which undoubtedly constitute nuisances, and which are essentially in violation of law, but for the abatement of which the remedy provided by law fails. It is therefore respectfully recommended that authority be asked for the abatement of nuisances upon private property by or under direction of the District government whenever the owner of such property can not be found, the cost of such abatement to be assessed against the property as a tax, and to be collected in the same manner as other taxes are collected.

Under the act to provide for the drainage of lots, approved May 19, 1896, 800 sewer and water connections have been made. As in the case of the general-nuisance laws, difficulty is experienced in requiring the

connection of property belonging to nonresidents. For, while the law authorizes connections to be made in such cases, the cost thereof to be assessed against the property, the only fund available for the payment of such cost, in the first instance, is the emergency fund, which is utterly insufficient for the purpose, and the maintenance of which is so important as not to justify, in the judgment of this department, any recommendation for such use of any part of it.

In this connection attention is respectfully invited to the condition which arises from the present method of enforcing the payment of water rent by cutting off the water supply in case of default. While the act above referred to requires water and sewer connections to be made, the former being practically necessary for the proper maintenance of the latter, it occasionally happens that the water supply is cut off by the government, thus creating nuisances which the owner or agent sometimes will not and the tenant can not abate. It is suggested, therefore, that from a sanitary standpoint it would be better if the water tax were assessed against the property and collected in the same manner as other taxes.

An important advance in the sanitary regulations of the District was made by the promulgation by the Commissioners, on April 19, 1897, of an amendment to the police regulations making it unlawful to spit on any part of any street-railway car or other public vehicle. And a still more important advance was made by the promulgation three days later of regulations governing the use and occupancy of buildings and grounds. Prior to the promulgation of the latter, the health department was practically without authority over unsanitary conditions existing within occupied buildings, although having the right to abate such nuisances as might exist in open lots; but by these regulations ample authority is, it is believed, granted, so far as lies within the authority of the Commissioners.

Notwithstanding, however, the authority granted by these regulations and by the various other laws in force in this District, a large number of dwellings exist which are totally unfit for occupation, and for the condemnation and removal of which there is no remedy. This condition was brought so forcibly to the attention of the Central Relief Committee in the course of its charitable labors during the past winter that through its efforts a bill was prepared and presented to the Commissioners which will, if enacted into law, provide the necessary relief. And as a means toward providing better accommodations for the occupants of such buildings as should and may be demolished, and so as to encourage the erection of a better class of dwellings to be rented at reasonable rates to those in poor and moderate circumstances, there has been organized through this committee a company for the purpose of building such dwellings.

Smoke nuisance.—Under date of December 4, 1895, the Commissioners directed the committee which had been previously appointed to investigate the heating and ventilating of school buildings to include in the scope of its investigations smoke-preventing devices and the most practicable method of doing away with the smoke nuisance from soft coal in the city of Washington. The committee, of which the health officer was a member, after giving the matter careful consideration, presented a report under date of January 16, 1897, together with the draft of such legislation as was recommended in that report. This legislation, in substantially the form proposed, was presented to Congress (S. 3648), but was not acted upon owing to the adjournment on March 4. The same measure was again introduced upon the convening of the

Fifty-fifth Congress (S. 1085) and is now in the hands of the Committee on the District of Columbia.

While the smoke nuisance here has not yet attained such proportions as it has in some other places, the experience of such places should be accepted as a warning not to procrastinate. It has long been accepted as a basis of action by health officials that no one has the right to unnecessarily pollute the atmosphere to the detriment of the comfort, health, or property of any other individual or individuals. This principle has been applied to businesses and trades whereby offensive odors are generated to the detriment of the neighborhood. In the light of present knowledge in reference to the possibility of preventing smoke, there seems to be no good reason why it should not be similarly applied to the generation of smoke, whether accompanied by foul odors or otherwise.

Foods.—The inspection of food properly embraces the inspection of dairies, dairy farms, and dairy products, of marine products, and of live stock, but in view of the differences which exist in the laws governing these subjects and in the methods of inspection they will be dealt with separately.

The amount of food condemned during the past year by inspectors of this department, and the relative amount of such condemnations for each of the past ten years, is shown in the accompanying tables.

TABLE M.—*Unwholesome food condemned during the year ending June 30, 1897.*

Articles.	1896.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Beef.....pounds..	4,906	4,733	2,640	927	1,757	1,998
Mutton.....do.....	2,274	2,374	1,718	368	1,215	1,210
Veal.....do.....	887	783	553	94	410	225
Pork.....do.....	1,339	1,738	1,264	332	1,627	1,107
Bacon.....do.....	140	44	2,598	91	30	110
Sausages.....do.....	165	468	263	57	265	304
Venison.....do.....						1-00
Chickens.....do.....	176	185	68	50	61	518
Turkeys.....do.....				2	32	29
Ducks.....do.....					5	35
Geese.....do.....					2	2
Birds.....do.....		180	1,866	79	601	299
Rabbits.....do.....				144	1,196	1,035
Squirrels.....do.....				2	209	64
Apples.....bushels..	1	13	4	7	13	7
Peaches.....do.....	102	52	86	11		
Pears.....do.....	2		90½	14½	½	½
Plums.....do.....			1			
Bananas.....dozen.....		1,047		7		34
Oranges.....do.....						4
Lemons.....do.....		12	3	5		
Grapes.....pounds.....		1,025	4,732	1,560	3,820	1,280
Berries.....quarts.....	1,877	430			62	
Cherries.....do.....						
Cantaloupes.....number.....	6,020	10,580	1,568			
Watermelons.....do.....	405	9,060	4,436	40		
Pineapples.....do.....	54					
Asparagus.....bunches.....	120					
Beets.....do.....	184	49		12		6
Carrots.....do.....				7		
Celery.....do.....			43	51	81	402
Radishes.....do.....						
Rhubarb.....do.....	166					
Lettuce.....heads.....	343	867		25		
Cabbage.....do.....	2,137	3,905	1,648	291	535	409
Cynilings.....number.....	2,548	2,219	251	30		50
Eggplants.....do.....		760	742	66	380	450
Cauliflower.....do.....	29				157	220
Pumpkins.....do.....					20	
Corn.....dozen.....	533	1,500	310	36		
Cucumbers.....do.....	566	136	16	75		18
Kale.....bushels.....		4		581	17	16
Spinach.....do.....					6	3
Parsnips.....do.....						

TABLE N.—*Unwholesome food condemned for ten years ending June 30, 1897.*

Articles.	1888.	1889.	1890.	1891.	1892.
Beef.....pounds..	20,534½	20,990	28,504	13,169½	18,785
Veal.....do.....	2,736	5,773	7,160	5,233	5,614
Mutton.....do.....	15,693	15,954	16,244	11,570	14,560
Bacon, ham, and pork.....do.....	2,533	2,218½	4,536	4,850½	9,877
Birds, rabbits, and squirrels.....number..	2,980	2,950	6,998	3,030	3,249
Poultry.....do.....	9,722	8,226	5,874	4,310	3,984
Eggs.....do.....	250	40	738½	.....	547
Cheese and butter.....pounds..	10	.....	.....	.....	.....
Potatoes and parsnips.....bushels..	1,191½	4,63½	1,057½	381½	732½
Beans, peas, and onions.....do.....	858½	1,328½	917½	236½	348
Cabbage and lettuce.....heads..	43,169	36,662	43,507	29,529	18,904
Squashes and pumpkins.....number..	5,584	4,449	6,912	5,479	4,722
Corn.....do.....	2,569½	1,506	2,304	1,633	1,341
Cucumbers.....do.....	5,876	4,665	6,848½	5,656	2,596½
Egg plants.....do.....	6,924	2,983	1,961	3,958	2,353
Tomatoes and turnips.....bushels..	1,256½	1,191	1,012	1,110½	1,063½
Kale and spinach.....do.....	1,787½	412½	907½	294½	444
Apples, peaches, pears, and plums.....do.....	917½	881	824½	286½	1,089½
Watermelons.....number..	16,543	5,721	11,446	9,608	19,830
Cantaloupes.....do.....	22,712	13,501	11,739	8,815	15,528
Berries.....quarts..	3,793	9,852	4,937	6,618	5,742
Oranges and lemons.....do.....	3,310½	1,594	520	521	371½
Bananas.....do.....	5,500	440	354	1,652	984
Grapes.....pounds..	3,929	3,368	3,349	3,014	7,860
Miscellaneous fruits and vegetables.....bushels..	1,993½	3,166	2,479½	1,966½	691½
Miscellaneous vegetables.....bunches..	11,446	11,454½	13,043	10,098	14,213

Articles.	1893.	1894.	1895.	1896.	1897.	Total.
Beef.....pounds..	20,583½	15,963½	20,092	33,854	34,336	226,812½
Veal.....do.....	3,420	2,372	3,123	5,338	16,837	57,806
Mutton.....do.....	11,906½	6,084½	11,724	19,443	6,634	129,813½
Bacon, ham, and pork.....do.....	5,654½	2,423	8,085	21,018	23,579	84,774
Birds, rabbits, and squirrels.....number..	2,059	2,605	3,683	3,367	6,201	37,131
Poultry.....do.....	6,275	1,191	1,724	2,220	2,039	45,565
Eggs.....do.....	269	605	2,377½	2,492½	2,695½	10,015
Cheese and butter.....pounds..	.....	.....	.....	.....	.....	10
Potatoes and parsnips.....bushels..	1,787½	216½	245	324½	565	6,965½
Beans, peas, and onions.....do.....	828	339½	802½	661½	427	6,727½
Cabbage and lettuce.....heads..	30,435	20,071	17,021	37,003	29,917	306,712
Squashes and pumpkins.....number..	8,544	9	50	35	5,492	41,276
Corn.....do.....	980½	951	1,178½	1,690	2,467	16,730½
Cucumbers.....do.....	5,832½	2,060½	3,402	1,971	1,592	40,500
Egg plants.....do.....	5,160	3,485	4,443	5,712	2,826	39,815
Tomatoes and turnips.....bushels..	354	389½	419½	732½	684½	8,213½
Kale and spinach.....do.....	390½	600½	457	410	885	6,588½
Apples, peaches, pears, and plums.....do.....	191	744½	295	546½	428	6,204½
Watermelons.....number..	1,625	3,184	2,947	3,248	14,541	88,693
Cantaloupes.....do.....	6,449	15,367	13,467	20,788	18,761	147,127
Berries.....quarts..	6,236	4,993	3,694	6,348	6,402	58,615
Oranges and lemons.....do.....	231	143	2,375	116	55	9,237½
Bananas.....do.....	316	3,516	1,969	669	1,125	16,525
Grapes.....pounds..	2,958	3,325	5,748	12,234	12,512	58,297
Miscellaneous fruits and vegetables.....bushels..	571	520	1,953	1,911½	1,197	16,452
Miscellaneous vegetables.....bunches..	15,308	16,372	19,545	28,290	9,122	148,891½
Opossums.....number..	.....	.....	.....	.....	16	16
Venison.....pounds..	.....	.....	.....	.....	100	100
Sauerkraut.....quarts..	.....	.....	.....	.....	70	70
Cherries.....do.....	.....	.....	.....	.....	61	61
Cauliflower.....number..	.....	.....	.....	.....	2,746	2,746
Pineapples.....do.....	.....	.....	.....	.....	101	101

In addition to the work shown in the preceding table, which represents what is more commonly considered within the scope of food inspections, there have been analyzed in the chemical laboratory 42 samples of vinegar, 10 of salad oils, 3 of butter, 2 of flour, 8 of cream of tartar, 1 of baking powder, and 42 of confections. Of the samples of vinegar analyzed, 35 were purchased as cider vinegar, but upon analysis only 10 were found to be so, the remainder consisting of malt vinegar and various other forms of the manufactured product. The offending dealers were prosecuted in the police court, and convictions

secured in 21 cases. Of the ten samples of salad oils, 9 of which were purchased as pure olive oil, 6 were found to be derived from cotton seed. Prosecutions were brought in 5 cases, and convictions followed. Eight samples of alleged cream of tartar were purchased and analyzed. In two instances the article sold was found to be a substitute, and prosecutions and convictions followed.

An investigation was made during the year into the character of the confections ordinarily sold in this District; and while in one instance sticks of candy were found to be made up entirely of flour and sugar of milk, and in another chocolate drops turned out to be flour coated with brown clay, with just enough sugar to give it a sweetish taste, and in a third gum drops were found to contain lampblack, it may be said in general that the materials employed in the manufacture of candy offered for sale here, as far as may be learned from the investigation made, are not such as would be considered injurious to health; although, as the chemist expresses it, it must be conceded that some of those mentioned above might well be dispensed with.

An effort was made during the past year to secure the passage of a more efficient law relating to the adulteration of foods and drugs in the District of Columbia (H. R. No. 9842, Fifty-fourth Congress). This bill passed the House but was not considered in the Senate. It was, therefore, introduced in the Fifty-fifth Congress (S. No. 471), and has passed the Senate. An attempt was also made to secure the passage of an act to prevent specifically the adulteration of candy (H. R. No. 8679, Fifty-fourth Congress). This bill having failed to pass has been introduced in the present Congress (H. R. No. 409), and is now awaiting consideration.

Drugs.—Owing to the manifold duties devolving upon the chemist, it has only been possible to devote a very limited amount of attention to the inspection of drugs. Four samples of the tincture of the chloride of iron were analyzed and found to be up to standard and free from impurities. The same may be said of one sample of powdered opium and one of precipitated chalk. But of eight samples of so-called precipitated sulphur, one was found to consist entirely of sublimed sulphur and another contained somewhat over 20 per cent of sulphate of calcium; and while, as seems probable from the small selling price of this article, the adulterations were possibly due to accident either in preparation or dispensing, as the injury to the purchaser would have been quite as great as if there had been intentional fraud, prosecutions and convictions followed in each case.

As a subject more or less closely allied to drug inspection, attention is invited to the need of amendment to the law now in force regulating the sale of poisons. Several bills for this purpose were introduced during the Fifty-fourth Congress (H. R. No. 9902, 9980, 10038, and 10332). As none of these became laws, a bill for the same purpose has been introduced into the present Congress (S. No. 470) and is now under consideration.

Marine products.—The usual statement as to the quantity of marine products inspected and condemned during the year will be found in Table L.

TABLE L.—*Inspections and condemnations of marine products for year ending June 30, 1897.*

Articles.	1896.						
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
<i>Inspections.</i>							
Oysters.....bushels	1,550	2,100	28,400	50,874	59,300	71,600	
Clams.....number	727,000	659,000	345,000	149,000	102,000	32,000	
Crabs.....do.	318,900	358,800	119,700	17,100			
Mackerel.....do.	9,240	12,010	4,597				
Sheepshead.....do.	11	57					
Striped bass.....bunches							
Bluefish.....do.							
Croakers.....do.							
Eels.....do.							
Sturgeon.....number	157	91	15				
Pike.....bunches							
Perch, yellow.....do.							
Perch, white.....do.							
Trout.....do.		15					
Catfish.....do.							
Mullets.....do.							
Turtles.....number	7	3					
Spots.....bunches							
Drumfish.....number			19				
Chubs.....bunches							
Carp.....number			6	80	254	199	
Flounders.....bunches							
Shad, winter.....do.							
Shad.....number							
Butter-fish.....bunches							
Black bass.....number					15	264	
Herring.....do.							
Hickory-jacks.....do.							
Porgies.....do.		343					
Fish.....bunches	42,354	51,628	37,647	29,260	38,009	17,482	
Halibut.....pounds				45			
<i>Condemnations.</i>							
Oysters.....bushels			1,350				
Clams.....number	13,526	14,400	9,100	9,600	7,700	1,000	
Crabs.....do.	61,025	59,300	36,100	6,800			
Fish.....bunches	1,477	1,781	1,085	2,618	1,654	284	
Turtles.....number							
Drumfish.....do.			2				
Sturgeon.....do.	6						
Herring.....do.							
Shad.....do.							
Hickory-jacks.....do.							
Carp.....do.							
Trout.....do.	16						
Halibut.....pounds				45			
Sheepshead.....number							
Articles.	1897.						Total.
	Jan.	Feb.	Mar.	Apr.	May.	June.	
<i>Inspections.</i>							
Oysters.....bushels	48,300	44,000	38,700	20,300	4,700	1,660	371,484
Clams.....number				250,000	679,000	501,400	3,444,400
Crabs.....do.				90,500	54,400	124,132	1,083,532
Mackerel.....do.						5,375	114,382
Sheepshead.....do.					8	393	469
Striped bass.....bunches							
Bluefish.....do.							
Croakers.....do.							
Eels.....do.							
Sturgeon.....number				15	175	157	610
Pike.....bunches							
Perch, yellow.....do.							
Perch, white.....do.							
Trout.....do.							15
Catfish.....do.							
Mullets.....do.							
Turtles.....number							
Spots.....bunches					16	82	108
Drumfish.....number						45	64
Chubs.....bunches							
Carp.....number	416	191	1,097	384	632	122	3,381
Flounders.....bunches							
Shad, winter.....do.							

TABLE L.—*Inspections and condemnations of marine products, etc.*—Continued

Articles.	1897.						Total.
	Jan.	Feb.	Mar.	Apr.	May.	June.	
<i>Inspections—Continued.</i>							
Shad.....number.....	190, 593	182, 164	22, 794	1, 444	396, 995
Butter-fish.....bunches.....
Black bass.....number.....	369	1, 375	937	151	.....	8	3, 119
Herring.....do.....	45, 680	1, 340, 600	5, 974, 000	2, 163, 600	13, 800	9, 537, 680
Hickory-jacks.....do.....	3, 410	4, 385	.....	.....	7, 795
Porgies.....do.....	85	157	585
Fish.....bunches.....	16, 598	21, 532	38, 895	33, 559	79, 750	62, 764	459, 478
Halibut.....pounds.....	45
<i>Condemnations.</i>							
Oysters.....bushels.....	510	160	50	3	2, 073
Clams.....number.....	5, 600	18, 084	17, 500	96, 510
Crabs.....do.....	83, 600	12, 500	25, 722	284, 447
Fish.....bunches.....	93	957	1, 569	3, 090	1, 341	671	16, 620
Turtles.....number.....	6	6
Drumfish.....do.....	2
Sturgeon.....do.....	6
Herring.....do.....	491, 000	659, 200	.....	1, 150, 200
Shad.....do.....	156	.....	156
Hickory-jacks.....do.....	78	.....	.....	78
Carp.....do.....	17	.....	17
Trout.....do.....	16
Halibut.....pounds.....	45
Sheepshead.....number.....	5	.....	5

Attention is again invited to the condition of the fish wharf, at which all marine products coming into the District by water are by law required to be landed. This wharf is the property of the District, and is leased to the highest bidder. It is therefore, or should be, a source of revenue. Upon it are unloaded each year millions of oysters, clams, crabs, and fish of various kinds. A very large number of them are condemned without leaving the wharf, and a very considerable portion of the remainder is shucked or cleaned before removal. There is, therefore, an enormous quantity of condemned material and offal which must be disposed of each day during the fish season, material which constitutes during decomposition one of the most offensive forms of refuse. The handling and cleaning of these fish, etc., requires also the use of a very considerable quantity of water, some, after being fouled, finding its way into the river, but much soaking into the surface of the wharf, which is made up of earth and wood. As if to hasten the decomposition which is going on in the condemned fish, offal, and filth saturated earth and planks the wharf is without shelter of any sort, so that the sun's rays find ready access. The entire place is very naturally a source of complaint, especially during the fish season.

It is, therefore, respectfully recommended that this fish wharf be equipped with suitable conveniences for carrying on the traffic which is by law limited to it. It should be provided with an impervious surface, properly graded and guttered, to permit the free and rapid discharge into the river of all liquid falling thereon, and with shelter to exclude the direct rays of the sun. Properly constructed benches, provided with suitable receptacles for offal, should be constructed, as should also a building for the reception of condemned fish and accumulated offal pending its removal to the place of final disposal.

Live stock.—Through the provision, during the past year, of a sanitary and food inspector who must be a veterinary surgeon, and shall act as inspector of live stock, the health department has been able to devote some attention to this branch of the inspection service for

the first time in many years. The general character of stock killed was good, most of the diseases found being such as would not render the carcass, or all of it, unfit for food. The greatest prevalence of serious disease was found in cows which, having been condemned for dairy purposes, were disposed of for slaughter for use as food. While it is true that some such animals might be unfit for the former purpose and yet used with impunity for the latter, trade of this sort demands the closest scrutiny.

In view of the fact that after slaughter and dressing for market, it is in many cases extremely difficult, if not impossible, to determine whether meat has or has not come from diseased animals, it is practically necessary that the inspection be made before or at the time of killing. With the limited force at the command of this department, such inspection as has been made has extended to only a very small portion of the stock actually killed; and in fact without an unreasonable increase in the number of live stock inspectors, it can not be otherwise unless there be provided a public abattoir and all slaughtering confined thereto, or unless private slaughterhouses be put under the most rigid restrictions as to time of killing, etc. As it is believed that the former method is preferable, the recommendation contained in the annual report of this department for 1895, for the establishment of a public abattoir, is respectfully renewed.

Inspection of dairies and dairy products.—One of the most important duties of the health department is the supervision of the milk supply. Milk is the single article of human food of animal origin which is habitually taken in its raw state. It is subject to rapid chemical changes, which not only interfere with its food value, but render it capable of producing the most serious results. It is the constant diet of infants and invalids. And its gross appearance up to the time of palpable souring affords the prospective purchaser practically no information as to its value. For these reasons it is important that the milk supply of any community receive the closest attention from those whose duty it is to care for public health. The method of inspection employed by this department consists of (1) the inspection of the places where the milk is produced, known as dairy farms; (2) the inspection of the places where it is kept for sale, known as dairies, and (3) the examination of the milk as it is offered for sale.

Three series of permits are issued in connection with this system of inspection: (1) Dairy farm permits, authorizing the holders to maintain dairy farms within the District of Columbia—that is, to keep cows for the production of milk for sale; (2) dairy permits, granting the right to engage in the selling of milk as a business; (3) importers' permits, granting the right, under certain conditions, to bring or send milk into the District of Columbia. During the year 49 dairy-farm permits were granted, 34 were refused, and 188 remained in force at the close of the year. Of dairy permits, 155 were granted, 36 were refused, and 540 remained in force. Importers' permits were issued in 95 cases, none were refused, and 496 were outstanding at the close of the year.

Inspection of dairy farms.—Some idea of the difficulties connected with the regulation of the milk traffic may be obtained from the statement that the milk supplied from the adjoining States comes from 9,317 cows, owned by 510 farmers, and that from the District comes from 1,356 cows, owned by 194 farmers. There are, therefore, engaged in the milk business of this District, as producers, 704 persons with 10,673 cows.

In the inspection of the dairy farms the examination of the cattle is,

of course, witnessed by veterinary inspectors. Cattle in the District are examined by an inspector from this department. Those in the adjoining States are examined by veterinarians employed by the same, certificates showing the results of such examinations being filed with the inspector on permission to bring or send milk into the District. The inspection of cattle within the District is made periodically. The examination of those in the adjoining States is required only once a year, inasmuch as the issue of an importer's permit, if any sanitary examinations of such cattle are made, the result is never reported to the health department. In neither instance is the tuberculin test used, nor evidence of any kind of condemnation on the part of this department, for because of the lack of the necessary funds.

The result of the examination of cattle as outlined above, taken as a whole, has been very unsatisfactory. Compared to the District the other States are in the light of the former within the District as a far apart of the same who are the milk. The difference in the result is shown by the difference between the percentages of cows which have been condemned by veterinarians in the adjoining States as reported by them, and the percentage of condemnations within the District to the inspector of the health department. In the primary examination of 1,115 cows in the adjoining States by local veterinarians, 12 were condemned, being 1.08 per cent, while in the primary inspection of 1,116 cows within the District by the health department, 45 or 4.04 per cent were condemned. The unfavorable character of the inspection in the adjoining States, and the fact that diseased cows do exist there, is no longer under doubt, as shown by the fact that of the 12 cows reported as out of order reported by a single veterinarian, one whose condition and professional standing gave no doubt as to the accuracy of his observation and symptoms of his complaint. These facts are further emphasized by the discovery in 22 herds in these States, upon inspection by this department, of 21 cattle unfit for dairy purposes. The existence of these figures may seem small. They are, however, taken from the official records. This department can not help deriving from them the conclusion that while an official inspector from the health department approves the results of an examination of a cow from the standpoint of public health, the veterinarian in the service of the farmer is inclined to attend to much more to the commercial aspects of the case.

The inspection of the dairy farms themselves is upon the same basis as the inspection of the cattle. Those in the District are inspected periodically by this department, while no inspection whatsoever is made of those in the States. In the case of the latter, the health department depends upon the statement of the importer or an importer's permit, in the case of a milk inspection. After such permit has been granted, the condition of the farm and cattle is beyond the knowledge of the department. The difference in the result is shown by the fact that while 40 per cent of the dairy farms inspected by the health department during the past year were found to be in such condition as to require the removal of permits for their maintenance, in not one instance in which the farm was located in a State and its condition reported by the importer, were any conditions entered which would justify the refusal of a permit to bring the milk there produced into the District.

It is not possible to believe that the condition of the dairy farms, not of the cattle in Maryland and Virginia is so much superior to that of those in the District of Columbia, as would appear from the figures which have been given, even after taking into consideration the fact that many of the dairy farms in the District are small, and are

within the city or its suburbs. The only conclusion which seems possible is that the people of the District are drinking a very considerable quantity of milk from diseased cows, and even more from cows which are subjected to the influences of unsanitary surroundings, and whose milk is kept for a greater or less time in such surroundings. The remedy for this condition would not be far to seek if it were possible to examine the milk and to determine therefrom the condition of the cow or cows from which it was taken, and the character of the surroundings. As, however, this can not be done, the only remedy lies in the appointment of a sufficient number of inspectors to investigate from time to time the dairy farms in the adjoining States. The right to do this is conceded by each applicant for an importer's permit, and his permit is issued subject to this condition.

Such an inspection as might be made under the present law if the necessary force were furnished would be sufficient if all producers of milk could be relied upon to discontinue the sale of milk from diseased cows when they were pointed out by the inspector. But there is no reason to believe that such would be the case, the probabilities being that in some instances the farmer would, as soon as the inspector was out of sight, resume the use of such milk. The remedy seems to lie in the tagging and registration of all cows supplying milk for this District as soon as possible after they are put to such use. The inauguration of such a system would involve a considerable outlay of time and money, but after that the cost of its maintenance in connection with a proper system of inspection of the farms (which is essential in any case) would not be prohibitive. Legislation to this end was proposed at the recent sessions of Congress (H. R. No. 9645, Fifty-fourth Congress; S. No. 1084, Fifty-fifth Congress) and met with considerable opposition from some of the milk dealers and producers, the chief argument being that tagging and registration of the cows would not prevent them from having acute diseases, and bad milk thus finding its way into the markets. But this hardly constitutes a valid reason why effort should not be made to prevent the sale of milk from cows suffering from chronic diseases. I am convinced that some such method must be adopted if the sale of milk from diseased cows is to be checked, or it must be made *prima facie* evidence of the sale of milk from such cows if they be found in the herd from which milk is taken for sale.

Whether either of these methods be adopted or not, it is evident that no satisfactory result can be obtained unless provision be made for the inspection of dairy farms in the adjoining States by representatives of this department. As a beginning toward this end, one additional inspector is asked for for this purpose, with such increase in the contingent fund as is necessary to pay for traveling expenses.

Inspection of dairies.—The inspection of places where milk is kept or offered for sale is now made a part of the duty of the inspector of dairy products. While the assignment of this work to him has necessarily diminished the amount of work done in the chemical laboratory, the result, as shown in the improved sanitary condition of the dairies, has amply compensated for this loss. Watered milk and skimmed milk are not nearly so dangerous, from a sanitary point of view, as is dirty milk, and this condition is best prevented by requiring proper facilities for storing and selling it. An earnest effort is being made in this direction, through the enforcement of the dairy regulations.

So far as relates to the milk traffic itself—that is, independently of the production of milk—the most important indication to be met at the present time is the regulation of the temperature of the milk during storage and sale. The rapidity with which it undergoes changes, when

of course, intrusted to veterinary surgeons. Cattle in the District are examined by an inspector from this department. Those in the adjoining States are examined by veterinarians employed by the farmers, certificates showing the result of such examinations being filed with the application for permission to bring or send milk into the District. The inspection of cattle within the District is made periodically. The examination of those in the adjoining States is required only once, as a preliminary to the issue of an importer's permit; if any secondary examinations of such cattle are made, the result is never reported to the health department. In neither instance is the tuberculin test used, not because of any lack of confidence on the part of this department, but because of the lack of the necessary funds.

The result of the examination of cattle as outlined above, taken as a whole, has been very unsatisfactory. Outside of the District the veterinarian acts as the agent of the farmer; within the District he is the agent of the people who use the milk. The difference in the result is shown by the difference between the percentage of cows which have been condemned by veterinarians in the adjoining States as reported by them, and the percentage of condemnations within the District by the inspector of the health department. In the primary examination of 9,317 cows in the adjoining States by local veterinarians, 52 were condemned, being 0.56 per cent, while in the primary inspection of 1,356 cows within the District, by the health department, 35 or 2.59 per cent were condemned. The unreliable character of the inspection in the adjoining States, and the fact that diseased cows do exist there in no inconsiderable number, is shown by the fact that of the 52 cows reported as bad, 45 were reported by a single veterinarian, one whose education and professional standing leave no doubt as to the accuracy of his observation and correctness of his judgment. These facts are further emphasized by the discovery in 23 herds in those States, upon inspection by this department, of 23 cattle unfit for dairy purposes. The statement of these figures may seem harsh. They are, however, taken from the official records. This department can not help drawing from them the conclusion that while an official inspector from the health department interprets the results of his examination of a cow from the standpoint of public health, the veterinarian in the service of the farmer is inclined to attach too much weight to the commercial aspects of the case.

The inspection of the dairy farms themselves is upon the same basis as the inspection of the cattle. Those in the District are inspected periodically by this department, while no inspection whatsoever is made of those in the States. In the case of the latter, the health department depends upon the statement of the applicant for an importer's permit, at the time of making application. After such permit has been granted, the condition of the farm and cattle is beyond the knowledge of the department. The difference in the result is shown by the fact that while 40 per cent of the dairy farms inspected by the health department during the past year were found to be in such condition as to necessitate the refusal of permits for their maintenance, in not one instance in which the farm was located in a State, and its condition reported by the applicant, have any conditions existed which would justify the refusal of a permit to bring the milk there produced into the District.

It is not possible to believe that the condition of the dairy farms and of the cattle in Maryland and Virginia is so much superior to that of those in the District of Columbia, as would appear from the figures which have been given, even after taking into consideration the fact that many of the dairy farms in the District are small tracts lying

within the city or its suburbs. The only conclusion which seems possible is that the people of the District are drinking a very considerable quantity of milk from diseased cows, and even more from cows which are subjected to the influences of unsanitary surroundings, and whose milk is kept for a greater or less time in such surroundings. The remedy for this condition would not be far to seek if it were possible to examine the milk and to determine therefrom the condition of the cow or cows from which it was taken, and the character of the surroundings. As, however, this can not be done, the only remedy lies in the appointment of a sufficient number of inspectors to investigate from time to time the dairy farms in the adjoining States. The right to do this is conceded by each applicant for an importer's permit, and his permit is issued subject to this condition.

Such an inspection as might be made under the present law if the necessary force were furnished would be sufficient if all producers of milk could be relied upon to discontinue the sale of milk from diseased cows when they were pointed out by the inspector. But there is no reason to believe that such would be the case, the probabilities being that in some instances the farmer would, as soon as the inspector was out of sight, resume the use of such milk. The remedy seems to lie in the tagging and registration of all cows supplying milk for this District as soon as possible after they are put to such use. The inauguration of such a system would involve a considerable outlay of time and money, but after that the cost of its maintenance in connection with a proper system of inspection of the farms (which is essential in any case) would not be prohibitive. Legislation to this end was proposed at the recent sessions of Congress (H. R. No. 9645, Fifty-fourth Congress; S. No. 1084, Fifty-fifth Congress) and met with considerable opposition from some of the milk dealers and producers, the chief argument being that tagging and registration of the cows would not prevent them from having acute diseases, and bad milk thus finding its way into the markets. But this hardly constitutes a valid reason why effort should not be made to prevent the sale of milk from cows suffering from chronic diseases. I am convinced that some such method must be adopted if the sale of milk from diseased cows is to be checked, or it must be made *prima facie* evidence of the sale of milk from such cows if they be found in the herd from which milk is taken for sale.

Whether either of these methods be adopted or not, it is evident that no satisfactory result can be obtained unless provision be made for the inspection of dairy farms in the adjoining States by representatives of this department. As a beginning toward this end, one additional inspector is asked for for this purpose, with such increase in the contingent fund as is necessary to pay for traveling expenses.

Inspection of dairies.—The inspection of places where milk is kept or offered for sale is now made a part of the duty of the inspector of dairy products. While the assignment of this work to him has necessarily diminished the amount of work done in the chemical laboratory, the result, as shown in the improved sanitary condition of the dairies, has amply compensated for this loss. Watered milk and skimmed milk are not nearly so dangerous, from a sanitary point of view, as is dirty milk, and this condition is best prevented by requiring proper facilities for storing and selling it. An earnest effort is being made in this direction, through the enforcement of the dairy regulations.

So far as relates to the milk traffic itself—that is, independently of the production of milk—the most important indication to be met at the present time is the regulation of the temperature of the milk during storage and sale. The rapidity with which it undergoes changes, when

kept at a favoring temperature, and the serious results which frequently follow the use of milk which has undergone such changes fully warrant legal measures to secure its preservation under proper conditions until delivered to the consumer—that is, to require the immediate cooling of the milk after milking to a temperature not exceeding 60° F. and its maintenance at this temperature until the time of its delivery. As at present, in some cases owing to ignorance and in others because of the slight additional expense involved, much of the milk which is sold is not kept in this condition it is recommended that legislation be secured to require this to be done.

Analysis of milk.—There have been analyzed during the year 244 samples of milk, 6 of cream, 13 of condensed milk, and 1 of “evaporated cream.”

Of the entire number of samples of milk which have been analyzed 7.4 per cent had been watered, 10.25 per cent had been skimmed, and 3 per cent had been both watered and skimmed; 20.65 per cent of the entire number had been tampered with. Of the samples collected by this office from railroad stations 11 per cent were adulterated, while of those collected at random throughout the city 28 per cent had been tampered with, from which it is apparent that much of the sophisticated milk sold in the city is the product of local enterprise.

The average composition of 193 samples of pure milk is shown in the following table:

Average composition of milk in the District of Columbia 1896-97.

Months.	Samples.	Total solids.	Fat.
1896.			
July.....	0	0	0
August.....	9	12.79	3.74
September.....	111	12.91	3.85
October.....	1	13.95	4.20
November.....	2	12.68	3.55
December.....	31	13.19	3.85
1897.			
January.....	10	12.95	3.89
February.....	1	12.78	3.80
March.....	0	0	0
April.....	3	12.57	3.50
May.....	2	13.53	4.10
June.....	23	13.03	3.96

The poorest unadulterated sample was collected June 11, 1897, and showed 11.85 per cent solids and 3 per cent fat.

The analyses of cream showed an average of 16.44 per cent butter fat. In the absence of any fixed legal standard for this article it is impossible to state just when a given sample should be classed as cream, except from the name given it by the seller. Purchasers of this article under contract are, of course, able to protect themselves by specifying a cream containing a given percentage of fat, but the private consumer is at the mercy of the dealer. It is respectfully recommended that the standard of cream be fixed by law as 20 per cent butter fat.

The analysis of condensed milk was undertaken largely because of a belief that the cheaper brands of this article were made of skimmed milk. In the examination of 14 samples, all of the cheaper grades, there was no evidence found to support this idea. The cheapness is brought about by the free admixture of sugar, but in the absence of any

legal standard for condensed milk this can not be considered as an adulterant. No preservatives (except sugar) were found, except in one sample labeled "Evaporated Cream," which contained boric acid.

GARBAGE AND DEAD ANIMALS.

The amount of garbage collected during the past year was 18,928 tons, an increase of 1,658 tons since last year. The average collection per thousand inhabitants per annum was therefore 68.34 tons, and the average collection per day 51.84 tons.

The number of dead animals collected was 7,161, being 551 less than during the year 1895-96, and an average of 19.62 per day.

The total number of complaints of improper collection of garbage or dead animals was 763, an average of 2.09 per day. In view of the fact that approximately 40 per cent of these complaints were found to originate from causes over which the garbage contractor had no control, the service, so far as collection was concerned, has been very satisfactory.

The same can not be said, however, in reference to disposal. The Brown garbage crematory, at the foot of South Capitol street, the operation of which, from a sanitary standpoint, has been satisfactory, has been closed for about six months because of business differences between the contractor for the collection and disposal of garbage and the builder of the furnace; and the Smith crematory which was erected on square 63, and began operations January 26, 1897, has been the source of much complaint, some of which, in the opinion of this department, have not been altogether without foundation. The result has been that during a greater part of the year garbage which should have been cremated has been disposed of by the method formerly in vogue, viz. removal in open scows to the banks of the Potomac, beyond the limits of the District of Columbia, for use by the farmers, it is alleged, as a fertilizer. And while the smaller dead animals have been burned, no serious attempt has been made to do this with the larger sorts.

The cost of the above service as by the contract has been \$57,000, of which \$55,974 has been paid to the contractor, \$1,022 to inspectors appointed by the Commissioners for duty in connection with the garbage service, and \$4 deducted for neglect. The cost, therefore, to the District for the collection and disposal of garbage and dead animals per thousand inhabitants per annum has been \$205.80, and the cost per collection over the entire collection area has been approximately \$260. The cost per thousand inhabitants per collection has been but 94 cents.

TABLE P.—*Offal removed during the year ended June 30, 1897.*

Months.	Dead animals.	Garbage.	Night soil.
1896.	<i>Number.</i>	<i>Tons.</i>	<i>Barrels.</i>
July.....	173	1,602 $\frac{1}{2}$	920
August.....	1,375	1,776 $\frac{1}{2}$	940
September.....	871	2,139 $\frac{1}{2}$	890
October.....	383	1,404 $\frac{1}{2}$	810
November.....	428	1,260	690
December.....	436	1,368 $\frac{1}{2}$	590
1897.			
January.....	363	1,001 $\frac{1}{2}$	405
February.....	370	1,335 $\frac{1}{2}$	410
March.....	608	1,825 $\frac{1}{2}$	354
April.....	710	1,619 $\frac{1}{2}$	519
May.....	763	1,765 $\frac{1}{2}$	591
June.....	681	1,830 $\frac{1}{2}$	640
Total.....	7,161	18,928 $\frac{1}{2}$	7,759

TABLE Q.—*Offal removed for fifteen years ended June 30, 1897.*

Year.	Dead animals.	Garbage.	Night soil.	Year.	Dead animals.	Garbage.	Night soil.
	<i>Number.</i>	<i>Tons.</i>	<i>Barrels.</i>		<i>Number.</i>	<i>Tons.</i>	<i>Barrels.</i>
1883.....	6,560	9,884	14,507	1891.....	9,910	24,683	19,671
1884.....	6,433	12,950	16,896	1892.....	10,528	22,039	18,640
1885.....	8,876	12,930	23,827	1893.....	9,649	14,814	15,725
1886.....	8,808	14,897	24,244	1894.....	10,340	14,172	11,284
1887.....	9,120	15,612	21,941	1895.....	7,512	23,297	9,720
1888.....	7,863	20,136	19,742	1896.....	7,712	17,270	11,300
1889.....	7,954	27,034	21,669	1897.....	7,161	18,928	7,759
1890.....	8,344	23,914	20,554				

TABLE R.—*Statement of garbage and dead-animal service from July 1, 1896, to June 30, 1897.*

[Joshua N. Warfield, contractor.]

	Total.	Average per day.	Average per 1,000 inhabitants.
Garbage collected.....tous..	18,928	51.84	68.34
Dead animals collected.....number..	7,161	19.62	
Complaints.....do.....	763	2.09	
Cost total amount of contract.....	\$57,000.00		
Cost per ton.....	\$3.01		
Cost per collection.....	\$250.95		\$0.94
Deductions:			
Pay of inspectors.....\$1,022.00			
Fines.....4.00			
	\$1,026.00		
Daily service:			
Vehicles in service.....		56	
Horses in service.....		62	
Men in service.....		56	
Semiweekly service:			
Vehicles in service.....		30	
Horses in service.....		36	
Men in service.....		30	

COLLECTION OF REFUSE.

Mention having just been made as to the collection and removal of garbage and dead animals, attention may properly be invited at this point to the urgent necessity for the collection of all sorts of refuse by the government. The health of a community depends quite as much upon municipal cleanliness as does the health of the individual upon personal hygiene, yet this District makes no provision for the removal or disposal of refuse other than garbage, dead animals, and street sweepings (except, of course, as is provided by the system of sewers). There remains a large amount of material over and above these, as night soil, ashes, general refuse from dwellings and stores, etc., for the removal and disposal of which each citizen is left more or less to his own devices.

Night soil.—The collection of night soil is entirely a matter of private enterprise, the only restriction being the requirement that it shall be removed and transported so as to prevent it from being agitated or exposed to the open air, and that it shall not be deposited in any place not approved by the health department. The business is at present entirely in the hands of a single individual, who collects such material and disposes of it in pits located at an isolated point on a branch of the Potomac some distance below the city. The usual amount charged for removal is \$1 per barrel, which usually represents the contents of a single box. There were removed during the year just ended 7,759 barrels, which, as shown by the reports of the collector, is the smallest annual collection recorded within the past fifteen years, the amount for

the preceding year having been 11,300 barrels. It is of course difficult to determine to what extent this decrease is due to the replacement of existing box privies by water-closets, but it is probably partly accounted for in this manner.

It is interesting to compare the amount of night soil removed annually with the number of box privies in the District of Columbia as indicated by the house-to-house inspection made in 1893-94 under direction of Health Officer Hammett. If, as shown by that inspection, there were 8,959 privies within the city of Washington, and a total of 14,092 within the entire District, the number of barrels of night soil reported as removed during that year, 11,284, indicates that a very considerable number were not cleaned more than once during the year, even if a certain amount of such work was done by persons other than the regular collector. The same condition apparently prevailed both before and after that period.

The very general neglect of persons using box privies to cause the same to be properly cleaned, except under compulsion, is further shown by the fact that during the year 1894-95 there were 9,720 barrels of night soil removed, of which 4,372, or 45 per cent, were removed as the result of notices from the health department. During the following year, of 11,300 barrels removed, 5,189, or 46 per cent, were removed as the result of notices, and during the year just ended, of 7,759 barrels removed, 4,637, or 60 per cent, were removed under compulsion.

The general character of the structures themselves used for privy purposes is shown by the inspectors' reports, which indicate that during the past year 4,897 were filthy and 555 had leaky boxes.

The remedy for the condition described above appears to be the collection of night soil by the government, either under contract or by day labor, combined with a system of registration of privies. Each privy should be emptied regularly, whether full or not, just as in the case of garbage receptacles; and if the work were done under the supervision of the government, each such place would be inspected as often as cleaned, and its maintenance in proper condition could be enforced. The cost of such service might, if necessary, be raised by a tax on the privies themselves, but, in view of the fact that the use of the sewers for a similar purpose is granted without cost for such as make connections therewith, a more equitable basis of payment would appear to be from the general taxes, to which an exception might be made in the case of premises maintaining box privies after sewer facilities were available. The plan above outlined is respectfully submitted for consideration.

The regulation of privies themselves is provided for in a bill to regulate the disposal of certain forms of refuse in the District of Columbia (S. No. 1258) which is now pending in the Senate.

Ashes.—The keeping of ashes and the frequency and method of removal and disposal are at present entirely without control or supervision. While not in themselves nuisances if properly cared for, it is believed that they as well as other forms of refuse should, in the interest of cleanliness and for the convenience of citizens, be removed by the government either under contract or by day labor. The cost of such service to the citizen would probably be no greater than at present, when he must pay the ash man from time to time for removing such ashes as accumulate.

Miscellaneous refuse.—In addition to the various forms of refuse which have heretofore been considered, there remains a large amount which accumulates about dwelling houses, stores, offices, and shops, such as waste paper of all sorts, sweepings, packing from boxes, etc., for the

collection and disposal of which no provision is made. The removal of this is, effected in the same manner as that of ashes, viz. by occasional calls of the ash man. It is also disposed of in the same manner as ashes, viz. by deposit upon lowlands. But while ashes so deposited form a fairly good filling and do not cause nuisance, the same is not true of this class of refuse, which, if not burned, makes a spongy, elastic soil; that is, as much of it as is not strewn over the streets and adjacent premises by the wind and not carried away by the men, women, and children who visit the dumps for salvage, and, if an attempt be made to burn it, causes a widely diffused nuisance by the foul smoke resulting therefrom.

An effort has been made for the past two years to obtain an appropriation for the purpose of securing the erection of furnaces for the reception and destruction of this material, but thus far without success. The recommendation for such an appropriation is therefore respectfully renewed. It is respectfully submitted, however, that the duty of the Government will not be performed until provision has been made for the collection of this material as well as for its disposal.

It is believed that there might be organized a system for the collection and disposal of all of the before-mentioned forms of refuse with greater economy and convenience to the citizen than the present method, and with advantage to the community from a sanitary standpoint. The disposal of sweepings and ashes might be continued as at present, the garbage either cremated or reduced, and the night soil cremated or disposed of by the method now in vogue. The general refuse, which should in any case be collected separately, would appear from recent reports to form a valuable fuel for use in connection with either the cremation or reduction of garbage and night soil. The cost of the service outlined above, in excess of the expense incident to the service now rendered, might, if necessary, be paid by a graduated house tax, probably without entailing greater expense upon the householder than the present method.

The foregoing is a bare outline of the needs of the District in the way of public scavenger service. To fill in the details requires an amount of time and labor which is not at the disposal of the health department. If, therefore, the plan seems to be worthy of further development it is suggested as one of the reasons why additional clerical aid should be afforded this department, as has been requested in the estimates submitted.

POUND SERVICE.

There have been impounded during the year just ended 2,962 dogs, 60 horses, 12 mules, 13 cows, 1 hog, 9 goats, and 7 geese—or 3,064 animals of all kinds. Of these, 2,710 were killed, 72 were sold, and 282 were redeemed by their owners. The total amount received from the pound service in the way of fees and proceeds from sales was \$526.25, while the expenses, exclusive of salaries, were \$485.14. Both of these amounts include the cost of feeding impounded horses, mules, and cows; as, although it is necessary for the owners of such animals to pay this amount before the animals can be released, or for the health officer to deduct it from the proceeds of their sale, under the present system of accounts it must be deposited in the United States Treasury as one of the receipts of the office. The expenses and receipts of the pound service are, therefore, both made to appear larger by this system than they properly should.

A detailed statement of the work of the pound during the past year and a comparative statement covering the past fourteen years is given in the following table:

TABLE S.—Operations of the pound for the year ending June 30, 1897.

Month.	Impounded.							Disposition.					
	Horses.	Mules.	Cows.	Hogs.	Goats.	Geese.	Dogs.	Total.	Redeemed.	Killed.	Dogs killed.	Sold.	Fees col- lected.
1896.													
July	13	1	6		2		147	169	18	147	145	4	\$43.00
August	4	4					596	604	22	578	578	4	53.25
September	11						356	367	12	344	343	11	46.25
October	6	1			5	7	229	248	16	224	221	6	36.00
November	4	1	4				130	139	10	123	123	8	52.00
December	1						43	44	1	39	39	4	10.00
1897.													
January	1						63	64		61	61	3	11.00
February				1			151	152	7	143	143	2	15.25
March			1				245	246	16	213	213	6	47.00
April	6		2				353	361	26	283	283	8	73.75
May	9	1			2		376	388	38	314	314	8	90.00
June	5	4					273	282	14	241	241	8	54.75
Total	60	12	13	1	9	7	2,962	3,064	180	2,710	2,704	72	526.25

TABLE T.—Animals impounded during the fourteen years ending June 30, 1897.

Year.	Horses.	Cows.	Calves.	Mules.	Hogs.	Geese.	Sheep.	Goats.	Dogs.	Total.
1884	31	120		2	2	75		29	2,699	2,958
1885	15	52		4	2	48	3	64	3,190	3,378
1886	22	66		2	1	89	1	52	2,968	3,201
1887	21	87			2	16	2	50	2,880	3,058
1888	25	85		4	3	26		36	2,572	2,751
1889	27	64		3		14		17	2,581	2,706
1890	54	110		2		19		25	2,834	3,044
1891	60	131	1	5	2	78		26	2,523	2,826
1892	62	109		20	2	28	1	20	3,077	3,319
1893	76	38		5	2	3		33	2,963	3,120
1894	88	26		12			7	21	3,408	3,592
1895	80	26		6	1	18		11	3,601	3,743
1896	64	18		3		17		3	3,226	3,331
1897	60	13		12	1	7		9	2,962	3,064
Total	685	945	1	80	18	438	14	396	41,484	44,061

There were issued by the collector of taxes during the year licenses for 7,345 dogs. There were impounded during that time 2,962 dogs, nearly all of which were unlicensed. Presuming that half of the unlicensed dogs were impounded, there were in the District of Columbia during the year 12,269 dogs. The number of cows kept for dairy purposes in the District, as shown by the applications for permits to keep dairy farms, was 1,356. No estimate of the number of other domestic animals can be made.

Under section 4 of an ordinance to amend "An ordinance to prevent domestic animals from running at large within the cities of Washington and Georgetown," passed by the board of health May 19, 1871, and legalized by Congress by a joint resolution approved April 24, 1880, and by an act approved August 7, 1894, all proceeds from the sale of impounded animals over and above the charges and expenses, if

unclaimed for a period of one year, are to be used by the health officer for sanitary purposes. Until June 25, 1895, it had been customary, however, to deposit this balance as a part of the pound fees, the District only receiving the benefit indirectly, as in the case of any other receipt. But under the date above mentioned the right of the health officer to use this amount as a "sanitary fund" was sustained by the Comptroller of the Treasury. The amount deposited to the credit of this fund since that time and still remaining available is \$22.15.

Attention is invited to the diminution in the amount of pound fees, and probably also in the amount of the receipts for dog licenses, through the ruling of the attorney for the District that the requirement of the act of June 19, 1878, that the pound master seize all dogs found running at large without the tax tag, impound them, and if they be not redeemed within forty-eight hours, sell or destroy them, is void. Under this ruling licensed dogs running at large, although without the tax tag, should not be impounded, and if impounded must be released without payment of fee, upon the presentation of the collector's receipt for the tax. As it is impossible to distinguish a licensed dog from one which is not licensed, except by the tag, many licensed dogs without tags are impounded, only to be released upon the presentation of the receipt. The work of the pound service is thus increased without any return therefor. The amount of the receipts for dog licenses is probably also diminished by the payment of one license for two dogs: the one not described on the collector's receipt wearing the tag, and thereby being protected from the pound men; while the release of the other, if it be impounded, is secured without expense by presenting the collector's receipt in which its description appears.

The urgent need for a new pound demands serious consideration. The structure at present used for that purpose is a disgrace to the community. When first built, in 1871, it was intended merely as a temporary arrangement for the accommodation of stray animals, as is indicated by its location in the middle of the roadway at the intersection of Twenty-third street, C street, and New York avenue. Its proposed temporary character was, however, apparently soon lost sight of, and in 1880 it was enlarged to its present size, viz. 40 by 90 feet. It is not yet of suitable size or construction for the proper accommodation of impounded animals and of the apparatus and horses used in the service. There is scarcely anything connected with the establishment that does not need to be repaired or replaced. The dog pens are too small. The heavy wagon used for the conveyance of dogs in the city must be used for country work to the detriment of the horses. No provision exists for the destruction of animals by modern methods, which, while probably no less painful than that now employed, viz. by shooting, are certainly less repugnant and have less tendency to brutalize those responsible for their operation.

I respectfully renew, therefore, my previous recommendation that a suitable site be purchased and a permanent building be constructed for the accommodation of all the paraphernalia of the pound service and of impounded animals of all kinds, and provided with improved apparatus for destroying such animals as must meet this fate.

In view of the fact that some of the horses in the service of the health department must necessarily be provided for at the pound, it is respectfully recommended that provision be made for caring for all such horses there, instead of stabling them in rented quarters, as at present.

The estimated cost of making the improvement outlined above is \$10,000, which amount is included in the estimates of this department for the ensuing year.

PROSECUTIONS.

The following table shows the number of cases in which warrants were issued at the instance of this department for the arrest of persons alleged to be guilty of having violated the various sanitary laws, and the outcome of their issue:

TABLE U.—Cases referred to the police court during the year ending June 30, 1897.

Disposition.	Character of nuisances.																			
	Privies.	Water-closets.		Sewers.	Slaughterhouses.		Violations of drainage act.		Stables.	Yards.	Vacant lots.	Hogs.	Violations of milk law.		Food and drugs.	Removing dead bodies without permit.	Burying fecal matter in yards.	Stagnant water.	Violation of garbage regulations.	Total.
Convicted and fined	31	2	1	1	...	...	4	2	...	14	37	2	6	...	1	...	...	...	1	101
Convicted, fined, and sentence suspended	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Convicted and personal bonds taken	78	2	6	...	27	1	4	1	4	5	...	2	...	...	2	...	...	...	...	132
Not pressed (nuisance abated after issue of warrant)	30	7	26	1	21	...	6	...	5	...	...	...	...	...	...	...	...	5	...	101
Dismissed	7	1	5	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	1	16
Collateral was forfeited	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Not found by police	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Total	155	12	39	2	50	1	9	9	4	24	37	4	6	7	2	...	...	...	...	361

Convicted and fined	101
Convicted and fined and sentence suspended	4
Convicted and personal bonds taken	132
Not pressed (nuisance abated after issue of warrant)	101
Dismissed	16
In which collateral was forfeited	1
Not found by police	6
Total	361
Amount of fines collected	\$477. 00

In view of the almost uniform practice of the court of dismissing cases in which the nuisances have been abated after the issue of warrants and before the cases come to trial, a large number of such cases have been abandoned. The number is larger than it would otherwise be, because of the frequency with which cases are continued by the court after having been referred to it. The practice of continuing cases in which prosecution is instituted by the health department is bad in its effect, because the persons prosecuted have almost uniformly been granted ample time to comply with the law before warrants were requested. The continuance of such cases therefore permits unnecessarily the continuance of nuisances. Similarly the dismissing of cases in which nuisances have been abated after the issue of warrants has the same effect, for notice having been given to abate the nuisance within a specified time, failure to comply within that time would appear to constitute a violation of law, which could not be purged by any subsequent compliance. The practice of permitting a subsequent compliance to be offered as a good defense, and often granting time in which to make such compliance, has therefore the effect of inducing noncompliance with the notices originally served by the health department, and thus of increasing the work of the department, of the prosecuting attorneys, and of the courts. The matter is one, however, over which the department has no control.

Of 361 warrants issued, 101 have been canceled for the reasons stated above, and 6 have been canceled because the police have been unable to find the parties against whom they were issued. In one case collateral was forfeited. The entire number of cases, therefore, which came to trial was 253. In 94 per cent of these convictions were secured, but in only 43 per cent of convicted cases were penalties enforced. In the remainder, sentence was suspended in 4 cases and personal bonds taken in 132. The total amount of fines collected was \$477.

It is interesting to note that 47 per cent of all warrants were issued for nuisances resulting from privies.

LEGISLATION.

The past year has been marked by great progress in the direction of securing necessary changes in the laws relating to sanitation in the District and to allied subjects. For the preparation of some of these laws and aid in the preparation of others, and for valuable assistance in securing their proper presentation to Congress, thanks are due to the Medical Society of the District of Columbia and to the Washington Homeopathic Medical Society.

Reference has already been made to the promulgation by the Commissioners of a regulation forbidding spitting in public conveyances, and others regulating the use and occupancy of buildings and grounds; also to the passage by Congress of laws to punish the impersonation of inspectors, to authorize the Commissioners to charge a fee for transcripts from the records, and to prevent the spread of contagious diseases; and certain laws passed by the Fifty-fourth Congress during the first session have been referred to in the preceding report of this department. It is therefore sufficient now to give the following summary of the status of legislation at the close of the Fifty-fourth Congress and at the close of the extraordinary session of the Fifty-fifth. Those bills introduced at the Fifty-fourth session and not passed are of course dead; while those introduced in the Fifty-fifth Congress are pending at the present time.

FIFTY-FOURTH CONGRESS.

A bill to provide for the care and cure of inebriates in the District of Columbia. H. R. No. 818. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 649) and passed. In the Senate, reported back from the Committee on the District of Columbia adversely (S. Report No. 727) and recommitted.

A bill to regulate the practice of veterinary medicine and surgery in the District of Columbia. H. R. No. 2659. S. No. 1233. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 870). In the Senate, referred to the Committee on the District of Columbia.

A bill to establish the Washington Homeopathic Medical College. H. R. No. 4780. Referred to the Committee on the District of Columbia. (For a bill for the same purpose in the Senate, see S. No. 1814, *infra*.)

A bill to provide street entrances to alleys in the District of Columbia. H. R. No. 5680. S. No. 1987. In the House of Representatives, referred to the Committee on the District of Columbia. In the Senate, referred to the Committee on the District of Columbia.

A bill to prevent the adulteration of candy in the District of Columbia. H. R. No. 8679. Referred to the Committee on the District of Columbia. (See H. R. No. 409, Fifty-fifth Congress, *infra*.)

A bill to prohibit cemeteries in the District of Columbia which will interfere with street extensions of the city of Washington. H. R. No. 8729. Referred to the Committee on the District of Columbia.

A bill to prevent the spread of contagious diseases in the District of Columbia. H. R. No. 9023. H. R. Report No. 2524. S. Report No. 1461. Became a law March 3, 1897. (See Public Document No. 125.)

A bill for the regulation of cemeteries and the disposal of dead bodies in the District of Columbia. H. R. No. 9099. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 2525) and passed. In the Senate, reported back from the Committee on the District of Columbia (S. Report No. 1462) and passed. Failed to become a law because of the failure of the President to sign it. (See S. No. 467, Fifty-fifth Congress, *infra*.) (This bill was passed at the close of the session. The failure of the President to sign it is attributed to lack of time and not to any objection to the measure itself.)

A bill to regulate privies in the District of Columbia. H. R. No. 9142. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 2526) and passed. In the Senate, reported back from the Committee on the District of Columbia (S. Report No. 1460). (See S. No. 1258, Fifty-fifth Congress, *infra*.)

A bill to further regulate the sale of milk in the District of Columbia, and for other purposes. H. R. No. 9645. Referred to the Committee on the District of Columbia. (See S. No. 1084, Fifty-fifth Congress, *infra*.)

A bill authorizing the Commissioners of the District of Columbia to charge a fee for the issuance of transcripts from the records of the health department. H. R. No. 9821. (See H. R. Report No. 2793.) Became a law March 3, 1897. (See Public Document No. 135.)

A bill relating to the adulteration of foods and drugs in the District of Columbia. H. R. No. 9842. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 2791) and passed. In the Senate, reported back from the Committee on the District of Columbia (S. Report No. 1458). (See S. No. 471, Fifty-fifth Congress, *infra*.)

A bill to restore medical freedom to the people of the District of Columbia. H. R. No. 9899. Referred to the Committee on the District of Columbia. (See S. No. 1134, Fifty-fifth Congress, *infra*.)

A bill to regulate the sale of poisons in the District of Columbia. H. R. No. 9902. Referred to the Committee on the District of Columbia.

A bill to punish the impersonation of inspectors of the health and other departments of the District of Columbia. H. R. No. 9976. S. No. 3498. H. R. Report No. 2792. S. Report No. 1331. Passed. Became a law March 3, 1897. (See Public Document No. 111.)

A bill to amend an act to regulate the practice of pharmacy in the District of Columbia. H. R. No. 9980. Referred to the Committee on the District of Columbia.

A bill to regulate the sale of poisons in the District of Columbia. H. R. No. 10038. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 2820) and passed. In the Senate, reported back from the Committee on the District of Columbia. (See S. No. 470, Fifty-fifth Congress, *infra*.)

A bill to amend an act entitled "An act to prohibit the interment of bodies in Graceland cemetery, in the District of Columbia." Passed August 3, 1894. H. R. No. 10122. H. R. Report No. 2902. Became a law March 2, 1897. (See Public Document No. 112.)

A bill to relieve oppressed medical practitioners in the District of Columbia. H. R. No. 10170. Referred to the Committee on the District of Columbia.

A bill to amend an act to regulate the practice of pharmacy in the District of Columbia. H. R. No. 10332. S. No. 3605. In the House of Representatives, reported back from the Committee on the District of Columbia (H. R. Report No. 3022). In the Senate, referred to the Committee on the District of Columbia. (See H. R. No. 2281, S. No. 1330, Fifty-fifth Congress, *infra*.)

A bill to incorporate the Washington Homeopathic Medical College in the District of Columbia. S. No. 1814. Reported back adversely from the Committee on the District of Columbia (S. Report No. 529).

A bill to test the improved methods for the disposal of sewage and water filtration of villages and cities. S. No. 2123. Reported back adversely from the Committee on the District of Columbia (S. Report No. 878).

A bill to authorize the acquisition of certain real estate for the purpose of a site for a hospital for the treatment of contagious diseases. S. No. 3267. Referred to the Committee on the District of Columbia.

A bill for the prevention of smoke in the District of Columbia, and for other purposes. S. No. 3648. Referred to the Committee on the District of Columbia. (See S. No. 1085, Fifty-fifth Congress, *infra*.)

A joint resolution to establish a commission to investigate the sources of contamination of the Potomac River and report what legislation is necessary to remove and prevent such pollution. S. R. No. 194. Referred to the Committee on the District of Columbia. (See proposed amendment to sundry civil bill, for investigation of pollution of water supplies, of January 29, 1897.)

FIFTY-FIFTH CONGRESS.

A bill for the regulation of cemeteries and the disposal of dead bodies in the District of Columbia. S. No. 467. Passed the Senate May 20, 1897.

A bill to regulate the sale of poisons in the District of Columbia. S. No. 470. Referred to the Committee on the District of Columbia.

A bill relating to the adulteration of foods and drugs in the District of Columbia. S. No. 471. Passed the Senate May 29, 1897.

A bill to further regulate the sale of milk in the District of Columbia, and for other purposes. S. No. 1084. Referred to the Committee on the District of Columbia.

A bill for the prevention of smoke in the District of Columbia, and for other purposes. S. No. 1085. Referred to the Committee on the District of Columbia.

A bill to restore medical freedom to the people of the District of Columbia. S. No. 1134. Referred to the Committee on the District of Columbia.

A bill to regulate, in the District of Columbia, the disposal of certain refuse, and for other purposes. S. No. 1258. Referred to the Committee on the District of Columbia.

A bill to amend an act to regulate the practice of pharmacy in the District of Columbia. S. No. 1330. H. R. No. 2281. In the Senate, referred to the Committee on the District of Columbia.

A bill to prevent the adulteration of candy in the District of Columbia. H. R. No. 409.

A joint resolution authorizing the Commissioners of the District of Columbia to alter, amend, or repeal certain health ordinances. S. R. No. 34. Referred to the Committee on the District of Columbia.

EASTERN BRANCH FLATS.

In the report of this department for 1894-95 attention was briefly invited to the necessity for improving the vast tract of marsh located in the Eastern Branch or Anacostia River; and in the present report reference has already been made to the high death rate in the eastern section of the District when compared with the death rate for the entire portion of the District in which conditions of life are similar, which, it may fairly be assumed, is, to a certain extent at least, due to the presence of this marsh. But even the death rate can give no adequate idea of the injurious influence arising from this place, because the diseases most likely to result therefrom are not such as are in themselves commonly fatal, or, if so, act through such long periods of time as to render it likely that many of those who contract such diseases in this vicinity die elsewhere. For instance, malarial infection, which appears to bear the closest relation to the proximity of marsh land, is not often fatal in the forms in which it occurs in the District of Columbia; so that in the absence of any compulsory report of cases it is impossible to determine the extent to which it prevails. Similarly, the occurrence of pulmonary consumption is favored by a residence upon or near a damp soil; but in the absence of morbidity reports the relative degree to which this disease originates in the various sections of the District can not be estimated. Even, therefore, if the excess of the death rate in the Eastern Branch section over that for the county as a whole (35.82 per 1,000 for the former as compared with 27.92 for the latter) be partly due to causes other than the presence of this great marsh, which is probably the case, or even if it were wholly due to other causes, which there is no reason to believe, this department could not hesitate to urge the immediate improvement of these flats, upon the basis of general observation and experience of sanitarians as to the unwholesomeness of such conditions as now exist.

IMPROVEMENT OF THE SEWER SYSTEM.

So much attention has been given within the past few years to the study of the sewerage system of this District, with the view of effecting necessary improvements, that it would seem almost needless for this

department to invite attention at the present time to the necessity therefor. But while the system has been studied and plans for its improvement have been carefully prepared, the labor thus expended will not bear fruit within the lifetime of the present generation if the present piecemeal policy of construction be followed.

In order to realize the rate of progress toward the completion of such improvements as have been pointed out as necessary, we must consider the length of time which has been consumed in bringing the work to its present stage. The present agitation may be said to have had its starting point June 13, 1878, when the Senate authorized a committee to sit during the recess of Congress "to consider and examine into various plans for the improvement of the system of sewerage and the sanitary condition of the District of Columbia." The appointment of this committee seems to have terminated in the publication of several rather elaborate reports upon the sewerage of European cities, with numerous plans for the improvement of the sewerage of Washington (see Mis. Docs. Nos. 13, 17, 19, and 25. Forty-fifth Congress, third session), but no practical results were accomplished.

Eleven years passed before the next step was taken. Then the District appropriation act, approved March 2, 1889, provided for the appointment by the President of the United States of three competent sanitary engineers to examine and report upon the system of sewerage existing in the District of Columbia, together with such suggestions and recommendations as might to them seem necessary and desirable for the modification and extension of the same. The report of the committee appointed under this act was published during the following year, 1890 (see Ex. Doc. 445, Fifty-first Congress, first session). The disposal of the city's sewage by the system of drainage in operation at the time of the investigations of this committee, which is practically that now in use, was found defective. At fourteen points along the Potomac and at eight on the Eastern Branch sewers of various sizes discharged their contents; and because of the relation existing between the tides and the current this discharge was frequently not carried off, but oscillated along the river front, settling along the shores, on the bottom, and on the flats; there it formed a breeding place for various forms of micro-organisms and gradually underwent decomposition, with the usual accompaniments in the way of deleterious and foul gases. This condition was much worse in the Eastern Branch than on the Potomac because of the relatively small volume of the stream and the presence of so much shallow water and swamp. In addition to this improper disposal of sewage after its discharge, certain points of the sewer system within the city itself were found to be sources of nuisances, viz, the B-street outlet canal, the James Creek Canal, and the lower portion of Rock Creek.

In the presence of such conditions the board of sanitary engineers found it necessary to devise a plan whereby all sewage of the city would be disposed of in such a manner as to prevent its deposit within the immediate vicinity of the city, and by which the open sewers above referred to would be closed and other existing defects of more or less importance corrected. To this end it recommended the establishment of pumping stations, and the discharge of the entire output of the Potomac River at a point some distance below Giesboro, with numerous changes in the present sewer system. Practically this plan has been adopted by Congress, and appropriations have been made for the construction of portions of the proposed work. But by this piecemeal method of construction it is to be feared that the population will outgrow the plans before the work is completed; so that the present

generation after paying the cost will not have the use or benefit of the sewers, and the next generation will have to devise and pay for a sewage-disposal scheme of its own. In view of the fact, therefore, that more than fifteen years have already elapsed since the need of improving the sewer system of this District was first realized, and so little progress has been made toward the completion of the work which has been outlined for that purpose, steps should be taken to hasten that end.

Respectfully submitted.

WM. C. WOODWARD, M. D.,

Health Officer.

THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA.